

ภาคผนวก ค-8

ผลการตรวจวัดคุณภาพน้ำบริเวณบ่อพักน้ำทิ้ง

TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telephone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsri
E-mail : supat@indorama.net

Test report no. : MTP/2022/00267
Revision no. : 0
Report date : 27-01-2022
Sample received date : 13-01-2022
Sample tested date : 13-01-2022
Test completed date : 24-01-2022

Sample description

Sample no. : MTP/2022/00267-01
Sample type : Wastewater
Sampling date/Time : 13-01-2022/13:40 hrs.
Sampling by : Noppadon Pummara/๓-189-๓-6740
Sample condition : Light yellow liquid with little sediment

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ^{1/} Maximum Permitted
pH @ 25°C	SM 4500-H ⁺ B. Electrometric	-	7.8	-	-	5.5-9.0
Temperature ^{2/} **	SM 2550 B. Laboratory and Field	°C	31.0	-	-	40
Color (pH Original) ^{3/} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	16	-	10	300
Color (pH 7.0) ^{3/} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	16	-	10	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180°C	mg/L	431	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	2.2	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	80.3	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ^{3/} **	SM 4500-N _{org} C. Digestion, Distillation, Titrimetric	mg/L	Less than 5.0	1.5	5.0	100

Remarks: "The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report.

^{1/} Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)


^{2/} On site measurement.

^{3/} Tested by United Analyst and Engineering Consultant Co., Ltd.

SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.

MDL = Method detection level., LOQ = Level of quantitation.


Reviewed by


Kanpisit Thanakiatchoochote
Laboratory Supervisor

๓-189-๓-5518

Approved by




Warattha Rojirawaris
Asst. Laboratory Manager

๓-189-๓-4973

Intertek Testing Services (Thailand) Ltd.

Branch 2 : Suite 601 B, Monirir Building, 60/1 Soi Phaholyothin 8, Phaholyothin Road, Samsaennai, Phayathai, Bangkok 10400, Thailand. Tel : +66 2279 5040 Fax : +66 2 270 1878-9 www.intertek.co.th

Map Ta Phut Laboratory : 22 Nernsamlee Road, Nernphra Sub-district, Muang Rayong District, Rayong Province 21150
Tel : +66 38 694 570-4 Fax : +66 38 694 558



TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telephone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsi
E-mail : supat@indorama.net

Test report no. : MTP/2021/00822A
Revision no. : 0
Report date : 23-02-2022
Sample received date : 03-02-2022
Sample tested date : 03-02-2022
Test completed date : 18-02-2022

Sample description

Sample no. : MTP/2022/00822-01A
Sample type : Wastewater
Sampling date/Time : 03-02-2022/14:00 hrs.
Sampling by : Noppadon Pummara/ว-189-ว-6740
Sample condition : Light yellow liquid

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ^{1/} Maximum Permitted
pH @ 25°C **	SM 4500-H ⁺ B. Electrometric	-	7.8	-	-	5.5-9.0
Temperature ^{1/2} **	SM 2550 B. Laboratory and Field	°C	31.1	-	-	40
Color (pH Original) ^{1/3} **	ADMI Weighted ordinate	ADMI	10	-	-	300
Color (pH 7.0) ^{1/3} **	ADMI Weighted ordinate	ADMI	10	-	-	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180 °C	mg/L	466	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	Less than 2.0	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	39.0	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ^{1/3} **	In-house Method UAE.TP.TN.02 Based on SM 4500-N _{org} C.	mg/L	Less than 5.0	1.5	5.0	100

Remarks: "The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report. "Tests marked (**)" are not under scope of accreditation."

^{1/} Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)

^{1/2} On site measurement.

^{1/3} Tested by United Analyst and Engineering Consultant Co., Ltd.

SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.
MDL = Method detection level., LOQ = Level of quantitation.

Reviewed by Kanpisit T.
Kanpisit Thanakiatchochote
Laboratory Supervisor

ว-189-ว-5518

Approved by Warattha Rojirawaris
Asst. Laboratory Manager

ว-189-ว-4973



TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telophone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsri
E-mail : supat@indorama.net

Test report no. : MTP/2022/01925
Revision no. : 0
Report date : 25-03-2022
Sample received date : 09-03-2022
Sample tested date : 09-03-2022
Test completed date : 25-03-2022

Sample description

Sample no. : MTP/2022/01925-01
Sample type : Wastewater
Sampling date/Time : 09-03-2022/13:35 hrs.
Sampling by : Noppadon Pummara/1-189-3-6740
Sample condition : Colorless liquid with sediment

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ^{1/} Maximum Permitted
pH @ 25°C **	SM 4500-H ⁺ B. Electrometric	-	7.8	-	-	5.5-9.0
Temperature ¹² **	SM 2550 B. Laboratory and Field	°C	32.4	-	-	40
Color (pH Original) ¹³ **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	16	-	10	300
Color (pH 7.0) ¹³ **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	16	-	10	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180°C	mg/L	590	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	2.0	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	47	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ¹³ **	SM 4500-N _{org} C. Digestion, Distillation, Titrimetric	mg/L	Less than 5.0	1.5	5.0	100

Remarks: "The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report. Tests marked (**) are not under scope of accreditation.

^{1/} Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)

¹² On site measurement.

¹³ Tested by United Analyst and Engineering Consultant Co., Ltd.

SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.

MDL = Method detection level., LOQ = Level of quantitation.

Reviewed by

Kanpisit T.

Kanpisit Thanakiatchoochote
Laboratory Supervisor

2-189-0-5518

Approved by



Warattha Rojirawaris
Asst. Laboratory Manager

2-189-0-4973



TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telephone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsri
E-mail : supat@indorama.net

Test report no. : MTP/2022/03323
Revision no. : 1
Report date : 12-05-2022
Sample received date : 27-04-2022
Sample tested date : 27-04-2022
Test completed date : 10-05-2022

Sample description

Sample no. : MTP/2022/03323-01
Sample type : Wastewater
Sampling date/Time : 27-04-2022/13:05 hrs.
Sampling by : Wattana Hwongpradid / ๓-189-๓-6735
Sample condition : Colorless liquid with little sediment

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ^{1/} Maximum Permitted
pH @ 25°C	SM 4500-H ⁺ B. Electrometric	-	7.7	-	-	5.5-9.0
Temperature ^{2/} **	SM 2550 B. Laboratory and Field	°C	31.4	-	-	40
Color (pH Original) ^{3/} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	Less than 10	-	10	300
Color (pH 7.0) ^{3/} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	Less than 10	-	10	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180°C	mg/L	162	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	2.1	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	19.9	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ^{3/} **	SM 4500-N _{org} C. Digestion, Distillation, Titrimetric	mg/L	5.6	1.5	5.0	100

Note: Revised result TKN.

Remarks: "The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report. Tests marked (**) are not under scope of accreditation.

^{1/} Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)

^{2/} On site measurement.

^{3/} Tested by United Analyst and Engineering Consultant Co., Ltd.

SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.

MDL = Method detection level., LOQ = Level of quantitation.

Reviewed by Kanpisit T.
Kanpisit Thanakiatchoochote
Laboratory Supervisor

๓-189-๓-5518

Approved by Warattha Rojirawaris
Asst. Laboratory Manager

๓-189-๓-4973

TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telephone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsri
E-mail : supat@indorama.net

Test report no. : MTP/2022/03703
Revision no. : 0
Report date : 26-05-2022
Sample received date : 11-05-2022
Sample tested date : 11-05-2022
Test completed date : 24-05-2022

Sample description

Sample no. : MTP/2022/03703-01
Sample type : Wastewater
Sampling date/Time : 11-05-2022/14:20 hrs.
Sampling by : Noppadon Pummara/๖-189-๖-6740
Sample condition : Colorless liquid with sediment

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ¹ Maximum Permitted
pH @ 25°C **	SM 4500-H ⁺ B. Electrometric	-	7.8	-	-	5.5-9.0
Temperature ² **	SM 2550 B. Laboratory and Field	°C	30.2	-	-	40
Color (pH Original) ³ **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	11	-	10	300
Color (pH 7.0) ³ **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	Less than 10	-	10	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180°C	mg/L	220	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	Less than 2	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	22.9	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ³ **	SM 4500-N _{org} C. Digestion, Distillation, Titrimetric	mg/L	Less than 5.0	1.5	5.0	100

Note: Revised result TKN.

Remarks: "The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report. Tests marked (**) are not under scope of accreditation.

¹ Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)

² On site measurement.

³ Tested by United Analyst and Engineering Consultant Co., Ltd.
SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.
MDL = Method detection level., LOQ = Level of quantitation.

Reviewed by


Kanpisit Thanakiatchoochote
Laboratory Supervisor
๖-189-๖-5518

Approved by




Warattha Rojjirawaris
Asst. Laboratory Manager
๖-189-๖-4973

Intertek Testing Services (Thailand) Ltd.

Branch 2 : Suite 601 B, Monririn Building, 60/1 Soi Phaholyothin 8, Phaholyothin Road, Samsaennai, Phayathai, Bangkok 10400, Thailand. Tel : +66 2279 5040 Fax : +66 2 270 1878-9 www.intertek.co.th
Map Ta Phut Laboratory : 22 Nernsamlee Road, Nernphra Sub-district, Muang Rayong District, Rayong Province 21150
Tel : +66 38 694 570-4 Fax : +66 38 694 558



TEST REPORT

Customer : Indorama Polyester Industries Public Company Limited
No.6 I-2 Road, Tumbol Maptaphut, Amphur
Muang Rayong, Rayong 21150, Thailand
Telephone : 038-683 870-8
Mobile: 084-653 4699
Telefax : 038-683 881

Contact : Khun Supat Sawangsi
E-mail : supat@indorama.net

Test report no. : MTP/2022/05040
Revision no. : 0
Report date : 08-07-2022
Sample received date : 22-06-2022
Sample tested date : 23-06-2022
Test completed date : 08-07-2022

Sample description

Sample no. : MTP/2022/05040-01
Sample type : Wastewater
Sampling date/Time : 22-06-2022/15:30 hrs.
Sampling by : Noppadon Pummara/1-189-3-0005
Sample condition : Colorless liquid with sediment

Customer information

Sample name : Effluent

Test parameter	Method	Unit	Results	MDL	LOQ	Standard ^{1/} Maximum Permitted
pH @ 25°C **	SM 4500-H ⁺ B. Electrometric	-	7.7	-	-	5.5-9.0
Temperature ^{1/2} **	SM 2550 B. Laboratory and Field	°C	28.6	-	-	40
Color (pH Original) ^{1/3} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	11	-	10	300
Color (pH 7.0) ^{1/3} **	SM 2120 F. ADMI Weighted-Ordinate Spectrophotometric	ADMI	10	-	10	300
Total Suspended Solids (TSS) **	SM 2540 D. Dried at 103 - 105°C	mg/L	Less than 10	-	10	50
Total Dissolved Solids (TDS)	SM 2540 C. Dried at 180°C	mg/L	314	-	30	3,000
Biochemical Oxygen Demand (BOD) **	SM 5210 B. 5-day BOD Test, Azide Modification	mg/L	2.4	-	2.0	20
Chemical Oxygen Demand (COD) **	SM 5220 D. Closed Reflux, Colorimetric	mg/L	36.1	2.0	5.0	120
Oil & Grease **	SM 5520 B. Liquid-Liquid, Partition Gravimetric	mg/L	Less than 4.0	-	4.0	5
Total Kjeldahl Nitrogen (TKN) ^{1/3} **	SM 4500-N _{org} C. Digestion, Distillation, Titrimetric	mg/L	N.D.	1.5	5.0	100

Remarks:

"The test results relate only to the items tested and are not intended to be a recommendation for any particular course of action. Customer is responsible for acting as it sees fit on the basis of such results. All work is performed in accordance with Intertek Standard Terms and Conditions of Service which is available on request and at <http://www.intertek.com/terms>. This report (including any enclosures and attachments) has been prepared for the exclusive use and benefit of the addressee(s) and solely for the purpose for which it is provided. Unless we provide express prior written consent, no part of this report should be reproduced, distributed or communicated to any third party. We do not accept any liability if this report is used for an alternative purpose from which it is intended, nor do we owe any duty of care to any third party in respect of this report. Tests marked (**) are not under scope of accreditation.

^{1/} Notification of the Ministry of Natural Resources and Environment : Industrial Effluents Standards dated March 29, B.E. 2559 (2016) published in the Royal Government Gazette, Vol. 133 special part 129 D, dated June 6, B.E. 2559 (2016)

^{1/2} On site measurement.

^{1/3} Tested by United Analyst and Engineering Consultant Co., Ltd.

SM = Standard Methods for the Examination of Water & Wastewater, APHA, AWWA, WEF 23rd edition 2017.

MDL = Method detection level., LOQ = Level of quantitation.

Reviewed by

Renuo B.

Renuo Botkeaw
Laboratory Chemist

1-189-P-0007

Approved



Thanasit T.
Thanasit Thanakiatchoochote
Laboratory Supervisor

1-189-P-0003

