

บริษัท อีสเทิร์น ไทย คอนซัลติ้ง 1992 จำกัด

683 หมู่ 11 ต.สุขาภิบาล 8 ต.หนองขาม อ.ศรีราชา จ.ชลบุรี 20230
โทร. 0-3848-1197, 0-3876-3031-2 แฟกซ์ : 0-3848-2095
เว็บไซต์ : http://www.etc1992.com อีเมล : info@etc1992.com



EASTERN THAI CONSULTING 1992 CO., LTD.

683 Moo 11 Sukhapibarn 8 Rd., Nongkham, Sriracha, Chonburi 20230
Tel. 0-3848-1197, 0-3876-3031-2 Fax : 0-3848-2095
Website : http://www.etc1992.com E-mail : info@etc1992.com

Request No. ATR6503069

Report No. 6503-1247

TEST REPORT

CUSTOMER : GC Glycol Co.,Ltd.
ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
SAMPLE SOURCE : EOEG Plant
SAMPLE NAME : F-1801A (Waste Water Holding Pit (F-1801))
SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031247
RECEIVED DATE : 31/03/2022 SAMPLING TIME : 10:06-22:06
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 31/03/2022-02/04/2022
Serial No. 218444 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹⁾	UNIT
Formaldehyde	Sorbent Adsorption, Gas	< 0.43	0.92	mg/m ³
	Chromatography/NIOSH 2541	< 0.35	0.75	ppm

REMARK:

¹⁾ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008 and No.0202-03-2564-0005.

(Sampling By Mr. Suttha Songthaninai)

GPS = Sampling at UTM 47 P 730930E 1404791N

Examined By

(Signature)

(Miss Thanaporn Klinsopon)

20/04/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Signature)

(Mr. Kawee Suthasub)

20/04/2022

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Request No. ATR6503069

Report No. 6503-1248

TEST REPORT

CUSTOMER : GC Glycol Co.,Ltd.
ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
SAMPLE SOURCE : EOEG Plant
SAMPLE NAME : U-550
SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031248
RECEIVED DATE : 31/03/2022 SAMPLING TIME : 09:32-21:32
SAMPLING INSTRUMENT : Personal Pump Flow rate 1.00 L/min TESTED DATE : 31/03/2022-01/04/2022
Serial No. 20200403076 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹⁾	UNIT
Sodium Hydroxide	Filtration Acid Base Titrimetric Method	< 0.4	2.0	mg/m ³
		< 0.2	1.2	ppm

REMARK:

¹⁾ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008

(Sampling By Mr. Suttha Songthaninai)

GPS = Sampling at UTM 47 P 731113E 1404853N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Signature)

(Miss Thanaporn Klinsopon)

20/04/2022

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Request No. ATR6503069

Report No. 6503-1249

TEST REPORT


CUSTOMER : GC Glycol Co.,Ltd.
ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
SAMPLE SOURCE : EOEG Plant
SAMPLE NAME : U-550
SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031249
RECEIVED DATE : 31/03/2022 SAMPLING TIME : 09:33-21:33
SAMPLING INSTRUMENT : Personal Pump Flow rate 2.00 L/min TESTED DATE : 31/03/2022-12/04/2022
Serial No. 20200403080 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹⁾	UNIT
Sulfuric acid	Ion Chromatography Method (NIOSH7908)	< 0.040	1.00	mg/m ³
		< 0.010	0.25	ppm

REMARK: ¹⁾ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.
* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008 and No.0202-03-2564-0005.
(Sampling By Mr. Suttha Songthaninai)
GPS = Sampling at UTM 47 P 731113E 1404853N

Examined By 
(Miss Thanatporn Klinsoopon)
20/04/2022



Approved By 
(Mr. Kawee Suthasub)
20/04/2022

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Request No. ATR6503069

Report No. 6503-1250

TEST REPORT

CUSTOMER : GC Glycol Co.,Ltd.
ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
SAMPLE SOURCE : EOEG Plant
SAMPLE NAME : F-970 (ข้าง G-970B)
SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031250
RECEIVED DATE : 31/03/2022 SAMPLING TIME : 10:09-22:09
SAMPLING INSTRUMENT : Personal Pump Flow rate 1.00 L/min TESTED DATE : 31/03/2022-01/04/2022
Serial No. 20200403064 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹⁾	UNIT
Sodium Hydroxide	Filtration Acid Base Titrimetric Method	< 0.4	2.0	mg/m ³
		< 0.2	1.2	ppm

REMARK: ¹⁾ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.
* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008
(Sampling By Mr. Suttha Songthaninai)
GPS = Sampling at UTM 47 P 730984E 1404838N



Approved By 
(Miss Thanatporn Klinsoopon)
20/04/2022

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Request No. ATR6503069

Report No. 6503-1251

TEST REPORT

CUSTOMER : GC Glycol Co.,Ltd.
 ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
 SAMPLE SOURCE : EOEG Plant
 SAMPLE NAME : RO Unit (Waste Water Pretreatment Unit)
 SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031251
 RECEIVED DATE : 31/03/2022 SAMPLING TIME : 10:20-22:20
 SAMPLING INSTRUMENT : Personal Pump Flow rate 1.00 L/min TESTED DATE : 31/03/2022-01/04/2022
 Serial No. 20200403077 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{1/}	UNIT
Sodium Hydroxide	Filtration Acid Base Titrimetric Method	< 0.4	2.0	mg/m ³
		< 0.2	1.2	ppm

REMARK:

^{1/} Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008

(Sampling By Mr. Suttha Songthaninai)

GPS = Sampling at UTM 47 P 730958E 1404830N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Miss Thanatporn Klinsoon)

20/04/2022

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Request No. ATR6503069

Report No. 6503-1252

TEST REPORT

CUSTOMER : GC Glycol Co.,Ltd.
 ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
 SAMPLE SOURCE : EOEG Plant
 SAMPLE NAME : Cooling
 SAMPLING DATE : 28/03/2022 SAMPLE NO. : A65031252
 RECEIVED DATE : 31/03/2022 SAMPLING TIME : 10:16-22:16
 SAMPLING INSTRUMENT : Personal Pump Flow rate 2.00 L/min TESTED DATE : 31/03/2022-12/04/2022
 Serial No. 20180903078 REPORTED DATE : 20/04/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{1/}	UNIT
Sulfuric acid	Ion Chromatography Method (NIOSH7908)	< 0.040	1.00	mg/m ³
		< 0.010	0.25	ppm

REMARK:

^{1/} Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008 and

No.0202-03-2564-0005.

(Sampling By Mr. Suttha Songthaninai)

GPS = Sampling at UTM 47 P 730887E 1404880N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

(Miss Thanatporn Klinsoon)

20/04/2022

Approved By

(Mr. Kawee Suthasub)

20/04/2022

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Request No. ATR6505079

Report No. 6505-1289

TEST REPORT

CUSTOMER : GC Glycol Co., Ltd.
 ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
 SAMPLE SOURCE : EOEG Plant
 SAMPLE NAME : F-1801A (Waste Water Holding Pit (F-1801))
 SAMPLING DATE : 24/05/2022 SAMPLE NO. : A65051289
 RECEIVED DATE : 30/05/2022 SAMPLING TIME : 09:17-21:17
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 30/05/2022-31/05/2022
 Serial No. 218402 REPORTED DATE : 02/06/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹⁾	UNIT
Formaldehyde	Sorbent Adsorption, Gas	< 0.43	0.92	mg/m ³
	Chromatography/NIOSH 2541	< 0.35	0.75	ppm

REMARK:

¹⁾ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008 and No.0202-03-2564-0005.

(Sampling By Mr. Wattana Khotla)

GPS = Sampling at UTM 47 P 730930E 1404791N

Examined By

(Miss Thanaporn Klinsoon)

02/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

02/06/2022

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Request No. LA65-R0503

Report No. R6505-0043

TEST REPORT

CUSTOMER : GC Glycol Co., Ltd.
 ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta Phut), Pakorn Songkhraorat Road, Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
 SAMPLE SOURCE : EOEG Plant
 SAMPLE POINT : บริเวณ Boiler (B910) SAMPLE NO. : 06905
 MEASURING DATE : 28/04/2022 RECEIVED DATE : 28/04/2022
 SAMPLING INSTRUMENT : Heat Stress ; REPORTED DATE : 05/05/2022
 Wet Bulb Globe Temperature (WBGT) : Serial No. TP1050069

PARAMETER*	SAMPLING TIME	RESULT				
		NWB	GT	DB	WBGT	UNIT
Heat Stress	09:30-10:00	28.5	34.9	32.7	30.2	°C
	10:00-10:30	28.4	35.4	33.0	30.3	°C
	10:30-11:00	28.6	36.4	33.4	30.6	°C
	11:00-11:30	28.6	38.1	33.2	31.0	°C
WBGT AVERAGE	09:30-11:30	-	-	-	30.5	°C
STANDARD		-	-	-	34.0 ^{1/2}	°C

REMARK :

Work Load is Light, Outdoor

¹⁾ Regulation of The Ministry of Labour B.E. 2559 (2016)²⁾ Notification of The Ministry of Industry B.E. 2546 (2003)

NWB = Natural Wet - Bulb Temperature

GT = Globe Temperature

DB = Dry - Bulb Temperature

WBGT = Wet - Bulb Globe Temperature

* Parameter have License Registration of Department of Labour Protection and Welfare No. 0401-03-2564-0009

(Measurement By Mr. Wattana Khotla)



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05/05/2022

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

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Request No. LA65-R0503

Report No. R6505-0044

TEST REPORT

CUSTOMER : GC Glycol Co., Ltd
ADDRESS : 9 Soi G-12, WHA Eastern Industrial Estate (Map Ta Phut), Pakorn Songkhraorat Road,
Tambon Map Ta Phut, Amphur Muang Rayong, Rayong 21150
SAMPLE SOURCE : EOEG Plant
SAMPLE POINT : บริเวณ Reactor (R110) SAMPLE NO. : 06906
MEASURING DATE : 28/04/2022 RECEIVED DATE : 28/04/2022
SAMPLING INSTRUMENT : Heat Stress ; REPORTED DATE : 05/05/2022
Wet Bulb Globe Temperature (WBGT) : Serial No. TPQ030023

PARAMETER*	SAMPLING TIME	RESULT				
		NWB	GT	DB	WBGT	UNIT
Heat Stress	09:30-10:00	28.1	35.4	33.5	30.3	°C
	10:00-10:30	28.4	37.3	33.8	31.1	°C
	10:30-11:00	28.7	38.1	34.2	31.5	°C
	11:00-11:30	29.1	38.9	33.7	32.0	°C
WBGT AVERAGE	09:30-11:30	-	-	-	31.2	°C
STANDARD		-	-	-	34.0 ^{1/2}	°C

REMARK :

Work Load is Light, Indoor

¹ Regulation of The Ministry of Labour B.E. 2559 (2016)² Notification of The Ministry of Industry B.E. 2546 (2003)

NWB = Natural Wet - Bulb Temperature

GT = Globe Temperature

DB = Dry - Bulb Temperature

WBGT = Wet - Bulb Globe Temperature


* Parameter have License Registration of Department of Labour Protection and Welfare No. 0401-03-2564-0009

(Measurement By Mr. Wattana Khotla)



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Approved By



(MRS. WANPEN LHAOCHINDAWAT)

05/05/2022

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