

ภาคผนวก ค

รายงานผลการตรวจวัดคุณภาพสิ่งแวดล้อม

ACCREDITED LABORATORY
ISO/IEC 17025

Request No. ATR6510022

Report No. 6510-0343 - 6510-0349

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : วัดมาบชลุง
 RECEIVED DATE : 25/10/2022 SAMPLE NO. : A65100343 - A65100349
 TESTED DATE : 25/10/2022-26/10/2022 REPORTED DATE : 26/10/2022

PARAMETER*	TEST METHOD	SAMPLING DATE	RESULT	STD ¹⁾	UNIT
Total Suspended Particulate (TSP)	Gravimetric Method	05-06/10/2022	0.045	0.33	mg/m ³
		06-07/10/2022	0.040	0.33	mg/m ³
		07-08/10/2022	0.033	0.33	mg/m ³
		08-09/10/2022	0.053	0.33	mg/m ³
		09-10/10/2022	0.029	0.33	mg/m ³
		10-11/10/2022	0.026	0.33	mg/m ³
		11-12/10/2022	0.034	0.33	mg/m ³

REMARK:

¹⁾ Notification of The National Environmental Board Volume 24 B.E.2547 (2004) Standard for 24-hr Average.

* Parameter Outside The Scope of The Registration of The Department of Industrial Works.

(Sampling By Mr. Tummarut Photankham)

GPS = Sampling at UTM 47P 736823E 1407369N



บริษัท อีสเทิร์นไทยคอนซัลตติ้ง 1992 จำกัด

Approved By

(Miss Thanatporn Klinsopon)

26/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
 THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL
 WITHOUT THE WRITTEN APPROVAL LABORATORY

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Request No. ATR6510022

Report No. 6510-0336 - 6510-0342

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : วัดมาบชูด
 RECEIVED DATE : 25/10/2022 SAMPLE NO. : A65100336 - A65100342
 TESTED DATE : 25/10/2022-26/10/2022 REPORTED DATE : 26/10/2022

PARAMETER*	TEST METHOD	SAMPLING DATE	RESULT	STD ^{1/}	UNIT
Particulate matter less than or Equal					
10 micrometers (PM 10)	Gravimetric Method	05-06/10/2022	0.019	0.12	mg/m ³
		06-07/10/2022	0.027	0.12	mg/m ³
		07-08/10/2022	0.014	0.12	mg/m ³
		08-09/10/2022	0.040	0.12	mg/m ³
		09-10/10/2022	0.023	0.12	mg/m ³
		10-11/10/2022	0.021	0.12	mg/m ³
		11-12/10/2022	0.029	0.12	mg/m ³

REMARK:

^{1/} Notification of The National Environmental Board Volume 24 B.E.2547 (2004) Standard for 24-hr Average.


* Parameter Outside The Scope of The Registration of The Department of Industrial Works.

(Sampling By Mr. Tummarut Photankham)

GPS = Sampling at UTM 47P 736823E 1407369N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By 

(Miss Thanatporn Klinsoon)

26/10/2022

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Request No. ATR6510022

Report No. 6510-0350 - 6510-0356

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : วัดมาบชลุค
 RECEIVED DATE : 25/10/2022 SAMPLE NO. : A65100350 - A65100356
 TESTED DATE : 25/10/2022-28/10/2022 REPORTED DATE : 28/10/2022

PARAMETER**	TEST METHOD	SAMPLING DATE	RESULT ^{1/}	UNIT
Propylene oxide	NIOSH1612/GC-FID	05-06/10/2022	0.12	mg/m ³
			0.05	ppm
		06-07/10/2022	ND	mg/m ³
			ND	ppm
		07-08/10/2022	ND	mg/m ³
			ND	ppm
		08-09/10/2022	ND	mg/m ³
			ND	ppm
		09-10/10/2022	0.26	mg/m ³
			0.11	ppm
		10-11/10/2022	1.04	mg/m ³
			0.44	ppm
		11-12/10/2022	0.14	mg/m ³
			0.29	ppm

REMARK:

^{1/} ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

** Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Tummarut Photankham)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 736823E 1407369N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

28/10/2022

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ACCREDITED LABORATORY
ISO/IEC 17025

Request No. LA65-R1040

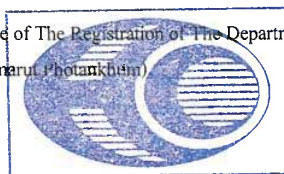
Report No. R6510-0865 – R6510-0871

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Nong Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : วัดมาบขลุค
 PARAMETER* : Nitrogen Dioxide
 DETERMINATION METHOD : Chemiluminescence
 INSTRUMENT : Environnement SA. Model AC32e S/N 693

SAMPLE NO. : 30170-30176
 SAMPLING DATE : 05-12/10/2022
 RECEIVED DATE : 12/10/2022
 REPORTED DATE : 25/10/2022

TIME / DATE	05-06/10/2022	06-07/10/2022	07-08/10/2022	UNIT
11:00 – 12:00 ²	0.009	0.005	0.003	ppm
12:00 – 13:00	0.004	0.005	0.004	ppm
13:00 – 14:00	0.004	0.007	0.003	ppm
14:00 – 15:00	0.008	0.010	0.002	ppm
15:00 – 16:00	0.007	0.011	0.003	ppm
16:00 – 17:00	0.015	0.004	0.003	ppm
17:00 – 18:00	0.014	0.003	0.003	ppm
18:00 – 19:00	0.020	0.005	0.010	ppm
19:00 – 20:00	0.016	0.009	0.012	ppm
20:00 – 21:00	0.010	0.012	0.014	ppm
21:00 – 22:00	0.006	0.010	0.013	ppm
22:00 – 23:00	0.006	0.008	0.011	ppm
23:00 – 00:00	0.013	0.007	0.009	ppm
00:00 – 01:00	0.014	0.007	0.009	ppm
01:00 – 02:00	0.008	0.005	0.008	ppm
02:00 – 03:00	0.003	0.004	0.006	ppm
03:00 – 04:00	0.003	0.006	0.009	ppm
04:00 – 05:00	0.004	0.011	0.009	ppm
05:00 – 06:00	0.006	0.010	0.008	ppm
06:00 – 07:00	0.009	0.010	0.015	ppm
07:00 – 08:00	0.010	0.009	0.008	ppm
08:00 – 09:00	0.010	0.006	0.008	ppm
09:00 – 10:00	0.010	0.005	0.006	ppm
10:00 – 11:00	0.006	0.005	0.006	ppm
Maximum 1 hr.	0.020	0.012	0.015	ppm
Average 24 hr.	0.009	0.007	0.008	ppm
Standard (1 hr.) ¹	0.17	0.17	0.17	ppm

REMARK : ¹ Notification of The National Environmental Board Volume 33 B.E. 2552 (2009)² Start Time* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Photankham)

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MS. THANATPORN KLINSOPON)

25/10/2022

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Request No. LA65-R1040

Report No. R6510-0865 – R6510-0871

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : วัดมาบชูด
PARAMETER* : Nitrogen Dioxide
DETERMINATION METHOD : Chemiluminescence
INSTRUMENT : Environnement SA. Model AC32c S/N 693

SAMPLE NO. : 30170-30176
SAMPLING DATE : 05-12/10/2022
RECEIVED DATE : 12/10/2022
REPORTED DATE : 25/10/2022

TIME / DATE	08-09/10/2022	09-10/10/2022	10-11/10/2022	UNIT
11:00 – 12:00 ²	0.004	0.002	0.005	ppm
12:00 – 13:00	0.003	0.002	0.006	ppm
13:00 – 14:00	0.007	0.002	0.004	ppm
14:00 – 15:00	0.004	0.003	0.006	ppm
15:00 – 16:00	0.002	0.011	0.004	ppm
16:00 – 17:00	0.003	0.009	0.005	ppm
17:00 – 18:00	0.002	0.007	0.008	ppm
18:00 – 19:00	0.005	0.006	0.008	ppm
19:00 – 20:00	0.009	0.004	0.007	ppm
20:00 – 21:00	0.009	0.004	0.009	ppm
21:00 – 22:00	0.011	0.006	0.007	ppm
22:00 – 23:00	0.015	0.006	0.005	ppm
23:00 – 00:00	0.010	0.003	0.004	ppm
00:00 – 01:00	0.010	0.008	0.004	ppm
01:00 – 02:00	0.008	0.008	0.006	ppm
02:00 – 03:00	0.008	0.006	0.010	ppm
03:00 – 04:00	0.008	0.002	0.011	ppm
04:00 – 05:00	0.006	0.003	0.008	ppm
05:00 – 06:00	0.002	0.004	0.005	ppm
06:00 – 07:00	0.011	0.006	0.005	ppm
07:00 – 08:00	0.006	0.005	0.007	ppm
08:00 – 09:00	0.008	0.008	0.007	ppm
09:00 – 10:00	0.006	0.008	0.012	ppm
10:00 – 11:00	0.005	0.008	0.013	ppm
Maximum 1 hr.	0.015	0.011	0.013	ppm
Average 24 hr.	0.007	0.006	0.007	ppm
Standard (1 hr.) ¹	0.17	0.17	0.17	ppm

REMARK : ¹ Notification of The National Environmental Board Volume 33 B.E. 2552 (2009)² Start Time* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Phorankhum)

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MS. THANATPORN KLINSOPON)

25/10/2022

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ACCREDITED LABORATORY
ISO/IEC 17025

Request No. LA65-R1040

Report No. R6510-0865 – R6510-0871

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : วัดมาบชดุด SAMPLE NO. : 30170-30176
 PARAMETER* : Nitrogen Dioxide SAMPLING DATE : 05-12/10/2022
 DETERMINATION METHOD : Chemiluminescence RECEIVED DATE : 12/10/2022
 INSTRUMENT : Environnement SA. Model AC32e S/N 693 REPORTED DATE : 25/10/2022

TIME / DATE	11-12/10/2022	UNIT
11:00 – 12:00 ²	0.014	ppm
12:00 – 13:00	0.016	ppm
13:00 – 14:00	0.015	ppm
14:00 – 15:00	0.010	ppm
15:00 – 16:00	0.010	ppm
16:00 – 17:00	0.013	ppm
17:00 – 18:00	0.007	ppm
18:00 – 19:00	0.009	ppm
19:00 – 20:00	0.009	ppm
20:00 – 21:00	0.013	ppm
21:00 – 22:00	0.010	ppm
22:00 – 23:00	0.007	ppm
23:00 – 00:00	0.006	ppm
00:00 – 01:00	0.008	ppm
01:00 – 02:00	0.005	ppm
02:00 – 03:00	0.007	ppm
03:00 – 04:00	0.003	ppm
04:00 – 05:00	0.002	ppm
05:00 – 06:00	0.009	ppm
06:00 – 07:00	0.010	ppm
07:00 – 08:00	0.005	ppm
08:00 – 09:00	0.004	ppm
09:00 – 10:00	0.009	ppm
10:00 – 11:00	0.005	ppm
Maximum 1 hr.	0.016	ppm
Average 24 hr.	0.008	ppm
Standard (1 hr.) ¹	0.17	ppm

REMARK : ¹ Notification of The National Environmental Board Volume 33 B.E. 2552 (2009)² Start Time* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Phoanakhum)

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MS. THANATPORN KLINSOPON)

25/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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Wind Speed & Wind Direction

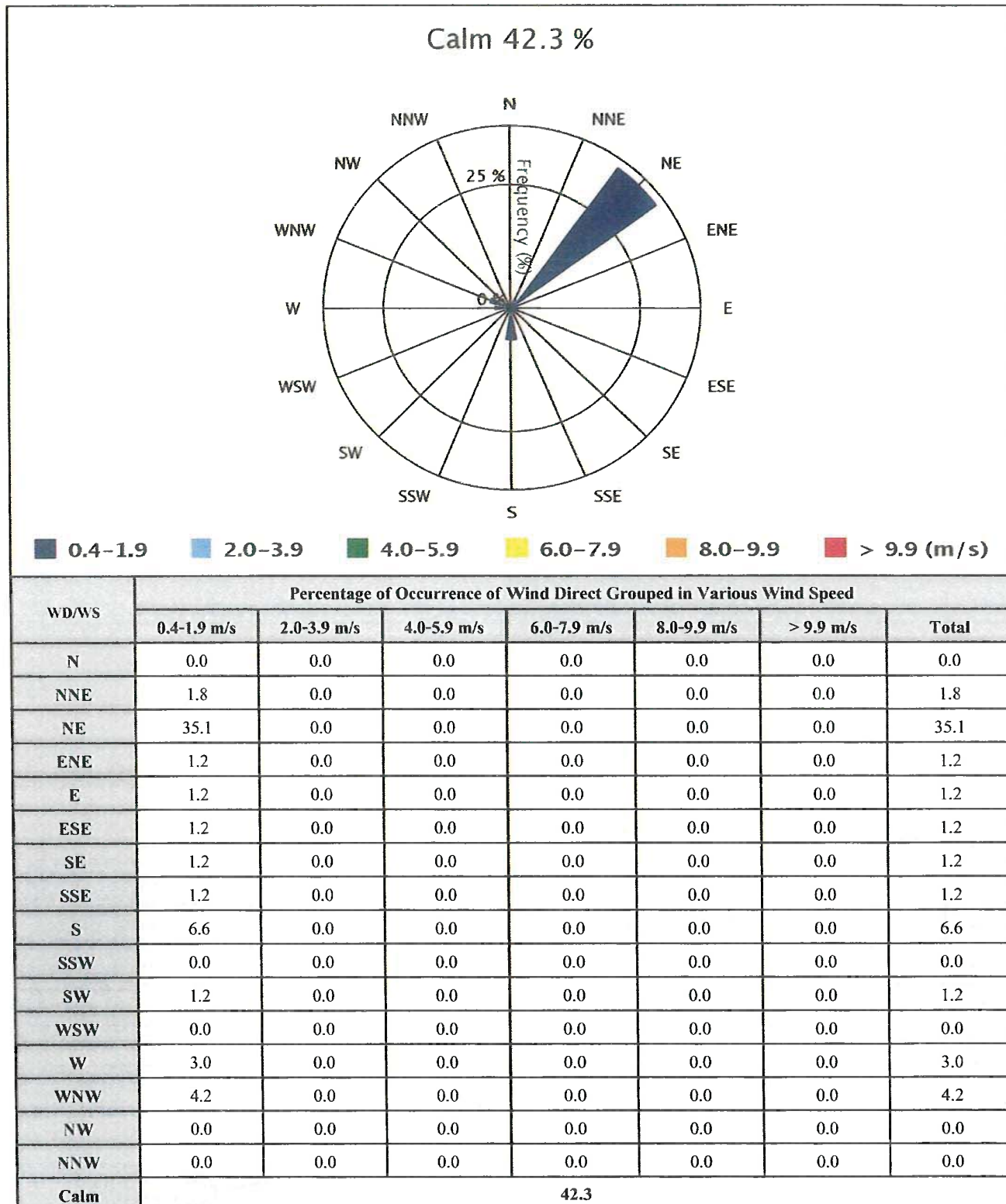
Request No. LA65-R1040

GC Oxirane Co., Ltd. (GCO Plant)

Sample No. 30184

Sampling Source : วัดมาบชุลูด

Sampling Date : October 5-12, 2022





Wind Speed & Wind Direction

Request No. LA65-R1040

GC Oxirane Co., Ltd. (GCO Plant)

Sample No. 30184

Sampling Source : วัดมาบขลุ่ย

Sampling Date : October 5-12, 2022

Time	October 5-6, 2022		October 6-7, 2022		October 7-8, 2022		October 8-9, 2022		October 9-10, 2022		October 10-11, 2022		October 11-12, 2022	
	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction	Wind Speed (m/s)	Wind Direction
11:00-12:00	0.9	NE	0.4	NE	0.4	NE	1.3	NE	0.9	NE	0.0	-	1.3	NE
12:00-13:00	1.3	NE	0.4	SSE	0.4	S	0.9	NE	0.4	E	0.4	NE	0.9	NE
13:00-14:00	0.9	NE	1.8	S	0.9	S	0.4	NE	0.4	SW	0.9	NE	0.4	NE
14:00-15:00	0.9	SE	0.9	S	1.3	S	0.0	-	0.9	W	0.9	NE	0.4	NE
15:00-16:00	0.9	SE	0.4	SSE	0.9	S	0.9	S	0.9	W	0.4	NE	0.4	NE
16:00-17:00	0.4	S	0.4	WNW	0.9	SW	0.4	W	0.4	ESE	0.4	ENE	0.4	NE
17:00-18:00	0.4	S	0.4	WNW	0.4	WNW	0.4	WNW	0.4	NE	0.0	-	0.4	NE
18:00-19:00	0.4	S	0.0	-	0.4	WNW	0.4	WNW	0.0	-	0.0	-	0.0	-
19:00-20:00	0.0	-	0.0	-	0.4	NE	0.0	-	0.0	-	0.4	W	0.0	-
20:00-21:00	0.0	-	0.4	NE	0.0	-	0.0	-	0.4	NE	0.0	-	0.0	-
21:00-22:00	0.0	-	0.9	NE	0.4	NE	0.0	-	0.0	-	0.4	NE	0.0	-
22:00-23:00	0.0	-	0.4	NE	0.4	ENE	0.0	-	0.0	-	0.0	-	0.0	-
23:00-00:00	0.0	-	0.0	-	0.0	-	0.4	NNE	0.0	-	0.0	-	0.4	NE
00:00-01:00	0.4	S	0.0	-	0.0	-	0.4	NNE	0.0	-	0.0	-	0.4	NE
01:00-02:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-
02:00-03:00	0.0	-	0.0	-	0.0	-	0.0	-	0.4	NE	0.0	-	0.9	NE
03:00-04:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.9	NE
04:00-05:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.4	W	0.4	NE
05:00-06:00	0.4	ESE	0.0	-	0.0	-	0.0	-	0.0	-	0.4	WNW	0.4	NE
06:00-07:00	0.4	E	0.4	NE	0.4	NE	0.0	-	0.0	-	0.0	-	0.9	NE
07:00-08:00	0.4	NE	0.9	NE	0.4	NE	0.0	-	0.0	-	0.0	-	0.4	NE
08:00-09:00	0.4	NE	0.9	NE	0.4	NE	0.4	NNE	0.0	-	0.4	NE	0.9	NE
09:00-10:00	0.9	NE	0.9	NE	0.4	NE	0.4	NE	0.0	-	0.4	NE	1.3	NE
10:00-11:00	0.9	NE	0.4	NE	0.9	NE	0.9	NE	0.0	-	0.9	NE	1.3	NE

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Request No. LA65-1008

Report No. 6510-0193

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.

ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150

SAMPLE SOURCE : GCO Plant

SAMPLE POINT : ปล่องของระบบ TO

SAMPLE NO. : 05510

SAMPLING DATE : 06/10/2022

SAMPLING TIME : 10:30-11:15

RECEIVED DATE : 08/10/2022

REPORTED DATE : 14/10/2022

TESTED DATE : 08-12/10/2022

STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	440.00	°C	Oxygen Content :	2.90 %
Air Velocity :	10.74	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	23.81	m ³ /s	Atmospheric Temperature :	34.20 °C
Moisture Content :	6.77	%		

PARAMETER*	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			2.90 % O ₂	7 % O ₂		
Particulate	Isokinetic, Gravimetric	10:30-11:15	47.4	36.6	320, 113 ³	mg/m ³
(TSP)			1.129	-	2.866 ³	g/s

REMARK:

¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)² DRY BASIS (25°C, 760 mm.Hg)³ กำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)

* SAMPLING BY MR. WARAKORN VITAYASEWEE (ว-003-ค-7283)

GPS = Sampling at UTM 47P 731246E 1406443N

Examined By.....

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

14/10/2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

Thongchai Boonsak

(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

14/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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WITHOUT THE WRITTEN APPROVAL LABORATORY

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Request No. LA65-1008

Report No. 6510-0194

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : ปล่องของระบบ TO SAMPLE NO. : 05511
 SAMPLING DATE : 06/10/2022 SAMPLING TIME : 10:40-10:45
 RECEIVED DATE : 08/10/2022 REPORTED DATE : 14/10/2022
 TESTED DATE : 08-12/10/2022

STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	440.00	°C	Oxygen Content :	2.90 %
Air Velocity :	10.74	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	23.81	m ³ /s	Atmospheric Temperature :	34.20 °C
Moisture Content :	6.77	%		

PARAMETER*	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			2.90 % O ₂	7 % O ₂		
Oxides of Nitrogen (NO _x as NO ₂)	Chemical Absorption,	10:40-10:45	8.0	6.2	376, 28.6 ³	mg/m ³
	Colorimetric		4.3	3.3	200, 15.2 ³	ppm
			0.190	-	0.725 ³	g/s

REMARK:¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)² DRY BASIS (25°C, 760 mm.Hg)³ ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)

* SAMPLING BY MR. WARAKORN VITAYASEWEE (ว-003-ค-7283)

GPS = Sampling at UTM 47P 731246E 1406443N

Examined By.....

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

14/10/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

14/10/2022

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Request No. LA65-1008

Report No. 6510-0196

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : ปล่องของระบบ TO SAMPLE NO. : 05513
 SAMPLING DATE : 06/10/2022 SAMPLING TIME : 10:30-11:00
 RECEIVED DATE : 08/10/2022 REPORTED DATE : 18/10/2022
 TESTED DATE : 08-17/10/2022
 STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	440.00	°C	Oxygen Content :	2.90 %
Air Velocity :	10.74	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	23.81	m ³ /s	Atmospheric Temperature :	34.20 °C
Moisture Content :	6.77	%		

PARAMETER	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			2.90 % O ₂	7 % O ₂		
Total Volatile Organic Compounds	U.S.EPA Method 25 A	10:30-11:00	2.18	1.68	-, ³	ppm
(TVOCs) ⁴			0.052	-	2.383 ³	g/s

REMARK:¹ NOTIFICATION OF THE MINISTRY OF INDUSTRY B.E. 2549 (2006)² DRY BASIS (25°C, 760 mm.Hg)³ ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)⁴ SAMPLING BY EASTERN THAI CONSULTING 1992 CO.,LTD.

(MR. WARAKORN VITAYASEWEE)

ANALYSED BY SECOT CO.,LTD.

GPS = Sampling at UTM 47P 731246E 1406443N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....*Thongchai Boonsak*

(MR. THONGCHAI BOONSAK)

18/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

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ACCREDITED LABORATORY
ISO/IEC 17025

Request No. LA65-1008

Report No. 6510-0197

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.

ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150

SAMPLE SOURCE : GCO Plant

SAMPLE POINT : ปล่อง Liquid Incinerator

SAMPLE NO. : 05514

SAMPLING DATE : 06/10/2022

SAMPLING TIME : 11:40-12:20

RECEIVED DATE : 08/10/2022

REPORTED DATE : 14/10/2022

TESTED DATE : 08-12/10/2022

STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	308.00	°C	Oxygen Content :	8.74 %
Air Velocity :	17.69	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	31.74	m ³ /s	Atmospheric Temperature :	34.40 °C
Moisture Content :	7.39	%		

PARAMETER*	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			8.74 % O ₂	7 % O ₂		
Particulate	Isokinetic, Gravimetric	11:40-12:20	3.5	4.0	35, 28 ³	mg/m ³
(TSP)			0.111	-	0.880 ³	g/s

REMARK:¹ NOTIFICATION OF MINISTRY OF INDUSTRY B.E. 2545 (2002)² DRY BASIS (25°C, 760 mm.Hg)³ กำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)

* SAMPLING BY MR. WARAKORN VITAYASEWEE (ว-003-ค-7283)

GPS = Sampling at UTM 47P 731287E 1406416N

Examined By.....

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

14/10/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

Thongchai Boonsak

(MR. THONGCHAI BOONSACK)

(ว-003-ค-5618)

14/10/2022

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Request No. LA65-1008

Report No. 6510-0198

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : ปล่อง Liquid Incinerator SAMPLE NO. : 05515
SAMPLING DATE : 06/10/2022 SAMPLING TIME : 11:50-11:55
RECEIVED DATE : 08/10/2022 REPORTED DATE : 14/10/2022
TESTED DATE : 08-12/10/2022
STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	308.00	°C	Oxygen Content :	8.74 %
Air Velocity :	17.69	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	31.74	m ³ /s	Atmospheric Temperature :	34.40 °C
Moisture Content :	7.39	%		

PARAMETER*	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			8.74 % O ₂	7 % O ₂		
Oxides of Nitrogen	Chemical Absorption,	11:50-11:55	10.2	11.7	150, 15.7 ³	mg/m ³
(NO _x as NO ₂)	Colorimetric		5.4	6.2	79.7, 8.3 ³	ppm
			0.324	-	0.490 ³	g/s

REMARK: ¹ NOTIFICATION OF MINISTRY OF INDUSTRY B.E. 2545 (2002)
² DRY BASIS (25°C, 760 mm.Hg)
³ ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)
* SAMPLING BY MR. WARAKORN VITAYASEWEE (ว-003-ก-7283)
GPS = Sampling at UTM 47P 731287E 1406416N

Examined By.....



(MISS APIRADEE CHUEN-AROM)

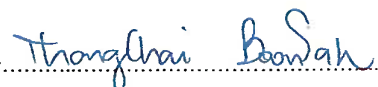
(ว-003-ก-4377)

14/10/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....



(MR. THONGCHAI BOONSACK)

(ว-003-ก-5618)

14/10/2022

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Request No. LA65-1008

Report No. 6510-0199

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : ปล่อง Liquid Incinerator SAMPLE NO. : 05516
 SAMPLING DATE : 06/10/2022 SAMPLING TIME : 11:40-12:16
 RECEIVED DATE : 08/10/2022 REPORTED DATE : 18/10/2022
 TESTED DATE : 08-17/10/2022
 STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	308.00	°C	Oxygen Content :	8.74 %
Air Velocity :	17.69	m/s	Barometric Pressure :	756.25 mm.Hg
Flow rate ² :	31.74	m ³ /s	Atmospheric Temperature :	34.40 °C
Moisture Content :	7.39	%		

PARAMETER	TEST METHOD	TIME	RESULT ²		STD ¹	UNIT
			8.74 % O ₂	7 % O ₂		
Total Volatile Organic Compounds	U.S.EPA Method 25 A	11:40-12:10	2.41	2.75	-, - ³	ppm
(TVOCs) ⁴			0.076	-	2.989 ³	g/s

REMARK:¹ NOTIFICATION OF MINISTRY OF INDUSTRY B.E. 2545 (2002)² DRY BASIS (25°C, 760 mm.Hg)³ ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)⁴ SAMPLING BY EASTERN THAI CONSULTING 1992 CO.,LTD.

(MR. WARAKORN VITAYASEWEE)

ANALYSED BY SECOT CO.,LTD.

GPS = Sampling at UTM 47P 731287E 1406416N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....



(MR. THONGCHAI BOONSAK)

18/10/2022

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Request No. LA65-R1040

Report No. R6510-0872

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
 PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}
 DETERMINATION METHOD : ISO 1996-1:2016
 INSTRUMENT : Integrated Sound Level Meter
 S/N 162032 : Type 2

SAMPLE NO. : 30177
 MEASURING DATE : 05-06/10/2022
 RECEIVED DATE : 12/10/2022
 REPORTED DATE : 25/10/2022

TIME \ DATE	05-06/10/2022 (L_{eq})	05-06/10/2022 (L_{max})	05-06/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	56.8	76.6	55.4	dB(A)
10:50 - 11:50	57.6	70.6	56.3	dB(A)
11:50 - 12:50	59.4	66.0	58.5	dB(A)
12:50 - 13:50	57.1	65.0	56.1	dB(A)
13:50 - 14:50	56.5	59.5	55.7	dB(A)
14:50 - 15:50	56.3	59.4	55.5	dB(A)
15:50 - 16:50	56.2	60.0	55.4	dB(A)
16:50 - 17:50	56.1	58.8	55.4	dB(A)
17:50 - 18:50	57.2	66.3	55.9	dB(A)
18:50 - 19:50	57.8	65.1	56.7	dB(A)
19:50 - 20:50	57.6	69.8	56.5	dB(A)
20:50 - 21:50	58.9	69.3	58.1	dB(A)
21:50 - 22:50	59.2	68.9	58.5	dB(A)
22:50 - 23:50	58.4	67.5	57.8	dB(A)
23:50 - 00:50	57.6	64.5	57.1	dB(A)
00:50 - 01:50	57.1	65.1	56.6	dB(A)
01:50 - 02:50	58.3	68.6	57.7	dB(A)
02:50 - 03:50	57.6	65.1	57.0	dB(A)
03:50 - 04:50	58.0	59.7	57.5	dB(A)
04:50 - 05:50	58.8	76.6	57.5	dB(A)
05:50 - 06:50	57.5	60.9	57.1	dB(A)
06:50 - 07:50	57.9	64.8	57.5	dB(A)
07:50 - 08:50	58.5	60.1	58.2	dB(A)
08:50 - 09:50	58.4	61.3	58.0	dB(A)
L_{eq} 24 hr.	57.8	-	-	dB(A)
L_{dn}	64.4	-	-	dB(A)
Maximum	-	76.6	-	dB(A)
Standard	$70^{11}, 70^{12}$	$115^{11}, 115^{12}$	-	dB(A)

REMARK : ¹¹ Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

¹² Notification of Ministry of the Industry B.E. 2548 (2005)

* Parameter Outside The Scope of The Registration of The Department of Industrial Works
 (Measurement By Mr. Tummarut Photankum)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....
 (MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

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Request No. LA65-R1040

Report No. R6510-0873

TEST REPORT

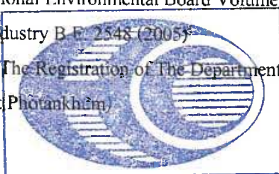
CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
 PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}
 DETERMINATION METHOD : ISO 1996-1:2016
 INSTRUMENT : Integrated Sound Level Meter
 S/N 162032 : Type 2

SAMPLE NO. : 30178
 MEASURING DATE : 06-07/10/2022
 RECEIVED DATE : 12/10/2022
 REPORTED DATE : 25/10/2022

TIME \ DATE	06-07/10/2022 (L_{eq})	06-07/10/2022 (L_{max})	06-07/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	57.6	61.6	57.1	dB(A)
10:50 - 11:50	57.8	73.5	56.9	dB(A)
11:50 - 12:50	56.6	58.2	56.1	dB(A)
12:50 - 13:50	55.7	68.4	54.6	dB(A)
13:50 - 14:50	55.0	58.9	53.8	dB(A)
14:50 - 15:50	55.1	59.4	54.0	dB(A)
15:50 - 16:50	54.8	60.4	53.4	dB(A)
16:50 - 17:50	57.9	63.5	57.0	dB(A)
17:50 - 18:50	58.9	63.7	57.9	dB(A)
18:50 - 19:50	59.4	71.1	58.4	dB(A)
19:50 - 20:50	59.0	64.3	58.0	dB(A)
20:50 - 21:50	58.6	63.0	57.8	dB(A)
21:50 - 22:50	58.6	70.6	57.6	dB(A)
22:50 - 23:50	58.0	64.4	57.5	dB(A)
23:50 - 00:50	57.4	61.3	56.9	dB(A)
00:50 - 01:50	57.7	62.7	56.8	dB(A)
01:50 - 02:50	57.4	64.3	56.3	dB(A)
02:50 - 03:50	57.5	61.9	56.5	dB(A)
03:50 - 04:50	56.4	61.4	55.4	dB(A)
04:50 - 05:50	57.4	70.9	56.6	dB(A)
05:50 - 06:50	58.5	61.0	57.9	dB(A)
06:50 - 07:50	58.6	61.2	58.1	dB(A)
07:50 - 08:50	59.0	60.3	58.6	dB(A)
08:50 - 09:50	58.8	60.3	58.3	dB(A)
L_{eq} 24 hr.	57.8	-	-	dB(A)
L_{dn}	64.1	-	-	dB(A)
Maximum	-	73.5	-	dB(A)
Standard	70 ¹ , 70 ²	115 ¹ , 115 ²	-	dB(A)

REMARK : ¹ Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)² Notification of Ministry of the Industry B.E. 2548 (2005)

* Parameter Outside The Scope of The Registration of The Department of Industrial Works
 (Measurement By Mr. Tummarut Photankham)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

³ Start Time

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

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Request No. LA65-R1040

Report No. R6510-0874

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
 PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}
 DETERMINATION METHOD : ISO 1996-1:2016
 INSTRUMENT : Integrated Sound Level Meter
 S/N 162032 : Type 2

SAMPLE NO. : 30179
 MEASURING DATE : 07-08/10/2022
 RECEIVED DATE : 12/10/2022
 REPORTED DATE : 25/10/2022

TIME \ DATE	07-08/10/2022 (L_{eq})	07-08/10/2022 (L_{max})	07-08/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	59.5	60.9	59.0	dB(A)
10:50 - 11:50	59.7	61.2	59.2	dB(A)
11:50 - 12:50	60.3	61.9	59.7	dB(A)
12:50 - 13:50	59.4	61.5	58.8	dB(A)
13:50 - 14:50	57.8	68.5	57.0	dB(A)
14:50 - 15:50	58.2	60.7	57.5	dB(A)
15:50 - 16:50	58.2	72.4	57.3	dB(A)
16:50 - 17:50	58.0	65.7	57.4	dB(A)
17:50 - 18:50	56.5	64.2	55.2	dB(A)
18:50 - 19:50	57.2	64.6	56.5	dB(A)
19:50 - 20:50	57.9	64.0	57.3	dB(A)
20:50 - 21:50	58.6	71.6	57.9	dB(A)
21:50 - 22:50	57.0	68.1	56.5	dB(A)
22:50 - 23:50	56.7	58.5	56.1	dB(A)
23:50 - 00:50	56.2	58.4	55.7	dB(A)
00:50 - 01:50	56.5	63.7	56.1	dB(A)
01:50 - 02:50	56.1	58.2	55.7	dB(A)
02:50 - 03:50	56.2	58.6	55.7	dB(A)
03:50 - 04:50	56.0	63.3	55.4	dB(A)
04:50 - 05:50	55.8	68.4	54.9	dB(A)
05:50 - 06:50	55.7	69.3	54.6	dB(A)
06:50 - 07:50	56.7	62.9	56.1	dB(A)
07:50 - 08:50	57.7	59.3	57.3	dB(A)
08:50 - 09:50	57.4	62.6	56.8	dB(A)
L_{eq} 24 hr.	57.7	-	-	dB(A)
L_{dn}	63.0	-	-	dB(A)
Maximum	-	72.4	-	dB(A)
Standard	70 ¹ , 70 ²	115 ¹ , 115 ²	-	dB(A)

REMARK : ¹ Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)² Notification of Ministry of the Industry B.E. 2548 (2005)

* Parameter Outside The Scope of The Registration of The Department of Industrial Works
 (Measurement By Mr. Tummarut Photankum)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

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Request No. LA65-R1040

Report No. R6510-0875

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}
DETERMINATION METHOD : ISO 1996-1:2016
INSTRUMENT : Integrated Sound Level Meter
S/N 162032 : Type 2

SAMPLE NO. : 30180
MEASURING DATE : 08-09/10/2022
RECEIVED DATE : 12/10/2022
REPORTED DATE : 25/10/2022

TIME \ DATE	08-09/10/2022 (L_{eq})	08-09/10/2022 (L_{max})	08-09/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	57.0	61.6	56.2	dB(A)
10:50 - 11:50	57.1	62.9	56.3	dB(A)
11:50 - 12:50	56.8	59.1	56.0	dB(A)
12:50 - 13:50	57.2	61.1	56.5	dB(A)
13:50 - 14:50	57.9	66.3	57.2	dB(A)
14:50 - 15:50	58.1	62.9	57.3	dB(A)
15:50 - 16:50	58.1	61.9	57.4	dB(A)
16:50 - 17:50	58.5	63.8	57.8	dB(A)
17:50 - 18:50	58.9	60.7	58.2	dB(A)
18:50 - 19:50	58.7	61.0	58.0	dB(A)
19:50 - 20:50	58.5	60.7	57.8	dB(A)
20:50 - 21:50	58.6	68.8	57.9	dB(A)
21:50 - 22:50	58.7	60.6	57.9	dB(A)
22:50 - 23:50	58.4	60.1	57.6	dB(A)
23:50 - 00:50	58.4	60.2	57.7	dB(A)
00:50 - 01:50	58.4	60.7	57.8	dB(A)
01:50 - 02:50	58.3	60.0	57.7	dB(A)
02:50 - 03:50	57.9	62.8	57.4	dB(A)
03:50 - 04:50	58.0	74.0	57.2	dB(A)
04:50 - 05:50	58.9	79.0	57.2	dB(A)
05:50 - 06:50	57.8	61.3	57.1	dB(A)
06:50 - 07:50	58.8	71.3	57.2	dB(A)
07:50 - 08:50	56.7	62.3	55.8	dB(A)
08:50 - 09:50	55.0	58.2	53.8	dB(A)
L_{eq} 24 hr.	58.0	-	-	dB(A)
L_{dn}	64.7	-	-	dB(A)
Maximum	-	79.0	-	dB(A)
Standard	70 ¹ , 70 ²	115 ¹ , 115 ²	-	dB(A)

REMARK : ¹ Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)² Notification of Ministry of the Industry B.E. 2548 (2005)* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Phorankhum)

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

³ Start Time

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

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Request No. LA65-R1040

Report No. R6510-0876

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.

ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150

SAMPLE SOURCE : GCO Plant

SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก

PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}

DETERMINATION METHOD : ISO 1996-1:2016

INSTRUMENT : Integrated Sound Level Meter

S/N 162032 : Type 2

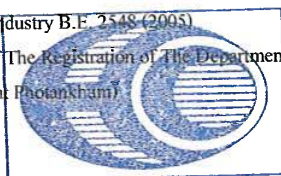
SAMPLE NO. : 30181

MEASURING DATE : 09-10/10/2022

RECEIVED DATE : 12/10/2022

REPORTED DATE : 25/10/2022

TIME \ DATE	09-10/10/2022 (L_{eq})	09-10/10/2022 (L_{max})	09-10/10/2022 (L_{90})	UNIT
09:50 - 10:50 ^{1/3}	56.6	61.7	55.7	dB(A)
10:50 - 11:50	57.5	60.7	56.8	dB(A)
11:50 - 12:50	57.7	61.5	56.9	dB(A)
12:50 - 13:50	58.1	61.4	57.3	dB(A)
13:50 - 14:50	57.3	60.6	56.5	dB(A)
14:50 - 15:50	57.6	73.1	56.5	dB(A)
15:50 - 16:50	56.7	62.6	56.0	dB(A)
16:50 - 17:50	57.0	64.4	56.4	dB(A)
17:50 - 18:50	57.5	58.8	57.0	dB(A)
18:50 - 19:50	57.6	64.8	56.9	dB(A)
19:50 - 20:50	58.3	61.9	57.4	dB(A)
20:50 - 21:50	60.9	73.2	58.8	dB(A)
21:50 - 22:50	59.2	79.1	58.1	dB(A)
22:50 - 23:50	58.7	61.3	58.2	dB(A)
23:50 - 00:50	59.3	65.0	58.7	dB(A)
00:50 - 01:50	60.7	63.8	60.1	dB(A)
01:50 - 02:50	59.1	62.1	58.5	dB(A)
02:50 - 03:50	59.5	61.6	59.0	dB(A)
03:50 - 04:50	58.4	59.5	57.9	dB(A)
04:50 - 05:50	58.4	61.0	57.9	dB(A)
05:50 - 06:50	59.6	74.2	58.6	dB(A)
06:50 - 07:50	59.1	60.5	58.7	dB(A)
07:50 - 08:50	58.0	59.6	57.5	dB(A)
08:50 - 09:50	54.9	64.2	54.0	dB(A)
L_{eq} 24 hr.	58.4	-	-	dB(A)
L_{dn}	65.5	-	-	dB(A)
Maximum	-	79.1	-	dB(A)
Standard	70 ^{1/1} , 70 ^{2/2}	115 ^{1/1} , 115 ^{2/2}	-	dB(A)

REMARK : ^{1/1} Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)^{2/2} Notification of Ministry of the Industry B.E. 2548 (2005)* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Photanham)Approved By.....
(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด
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COPY

Request No. I.A65-R1040

Report No. R6510-0877

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn}
DETERMINATION METHOD : ISO 1996-1:2016
INSTRUMENT : Integrated Sound Level Meter
S/N 162032 : Type 2

SAMPLE NO. : 30182
MEASURING DATE : 10-11/10/2022
RECEIVED DATE : 12/10/2022
REPORTED DATE : 25/10/2022


TIME \ DATE	10-11/10/2022 (L_{eq})	10-11/10/2022 (L_{max})	10-11/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	54.8	57.8	54.0	dB(A)
10:50 - 11:50	56.2	59.3	55.6	dB(A)
11:50 - 12:50	57.4	73.8	56.3	dB(A)
12:50 - 13:50	57.8	65.1	56.8	dB(A)
13:50 - 14:50	58.7	62.6	58.0	dB(A)
14:50 - 15:50	58.4	65.6	57.7	dB(A)
15:50 - 16:50	58.3	62.1	57.6	dB(A)
16:50 - 17:50	57.2	64.5	56.5	dB(A)
17:50 - 18:50	58.3	79.4	56.7	dB(A)
18:50 - 19:50	57.4	60.2	56.9	dB(A)
19:50 - 20:50	60.0	75.9	58.9	dB(A)
20:50 - 21:50	58.3	65.3	57.8	dB(A)
21:50 - 22:50	58.2	59.5	57.7	dB(A)
22:50 - 23:50	59.4	66.2	58.9	dB(A)
23:50 - 00:50	60.0	61.6	59.4	dB(A)
00:50 - 01:50	60.1	61.4	59.5	dB(A)
01:50 - 02:50	60.1	61.9	59.6	dB(A)
02:50 - 03:50	59.8	62.0	59.2	dB(A)
03:50 - 04:50	59.5	63.7	58.8	dB(A)
04:50 - 05:50	59.0	64.0	58.3	dB(A)
05:50 - 06:50	59.6	70.4	58.9	dB(A)
06:50 - 07:50	59.6	61.5	59.1	dB(A)
07:50 - 08:50	59.3	61.2	58.7	dB(A)
08:50 - 09:50	59.4	61.5	58.8	dB(A)
L_{eq} 24 hr.	58.8	-	-	dB(A)
L_{dn}	65.8	-	-	dB(A)
Maximum	-	79.4	-	dB(A)
Standard	$70^{/1}, 70^{/2}$	$115^{/1}, 115^{/2}$	-	dB(A)

REMARK : ^{/1} Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)^{/2} Notification of Ministry of the Industry B.E. 2548 (2005)* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Phatankhum)

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

^{/3} Start Time

Approved By.....


(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

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Request No. LA65-R1040

Report No. R6510-0878

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณริมรั้วโรงงานด้านทิศตะวันตก
 PARAMETER* : L_{eq} 1 hr., L_{eq} 24 hr., L_{max} , L_{90} & L_{dn} SAMPLE NO. : 30183
 DETERMINATION METHOD : ISO 1996-1:2016 MEASURING DATE : 11-12/10/2022
 INSTRUMENT : Integrated Sound Level Meter RECEIVED DATE : 12/10/2022
 S/N 162032 : Type 2 REPORTED DATE : 25/10/2022

TIME \ DATE	11-12/10/2022 (L_{eq})	11-12/10/2022 (L_{max})	11-12/10/2022 (L_{90})	UNIT
09:50 - 10:50 ³	59.5	61.5	58.9	dB(A)
10:50 - 11:50	59.8	63.1	59.1	dB(A)
11:50 - 12:50	59.8	62.7	59.1	dB(A)
12:50 - 13:50	57.9	65.3	57.0	dB(A)
13:50 - 14:50	56.2	62.9	55.2	dB(A)
14:50 - 15:50	56.6	59.6	55.8	dB(A)
15:50 - 16:50	57.6	63.2	57.0	dB(A)
16:50 - 17:50	59.0	63.1	58.5	dB(A)
17:50 - 18:50	59.7	62.2	59.3	dB(A)
18:50 - 19:50	61.0	63.9	59.7	dB(A)
19:50 - 20:50	59.7	60.9	59.3	dB(A)
20:50 - 21:50	59.1	60.2	58.7	dB(A)
21:50 - 22:50	58.8	61.1	58.4	dB(A)
22:50 - 23:50	58.3	60.7	58.0	dB(A)
23:50 - 00:50	58.4	61.1	57.9	dB(A)
00:50 - 01:50	58.7	60.7	58.3	dB(A)
01:50 - 02:50	59.1	63.8	58.4	dB(A)
02:50 - 03:50	59.7	64.1	59.0	dB(A)
03:50 - 04:50	59.4	68.5	58.9	dB(A)
04:50 - 05:50	59.2	62.1	58.6	dB(A)
05:50 - 06:50	59.3	61.6	58.8	dB(A)
06:50 - 07:50	59.6	61.4	59.1	dB(A)
07:50 - 08:50	59.4	63.5	58.8	dB(A)
08:50 - 09:50	58.7	69.0	58.0	dB(A)
L_{eq} 24 hr.	59.1	-	-	dB(A)
L_{dn}	65.4	-	-	dB(A)
Maximum	-	69.0	-	dB(A)
Standard	70 ¹ , 70 ²	115 ¹ , 115 ²	-	dB(A)

REMARK : ¹ Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)² Notification of Ministry of the Industry B.E. 2548 (2005)* Parameter Outside The Scope of The Registration of The Department of Industrial Works
(Measurement By Mr. Tummarut Photankham)

บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

25/10/2022

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Request No. ATR6508049

Report No. 6508-0929

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Oxidation Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080929
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:15-12:15
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 218402 REPORTED DATE : 13/09/2022

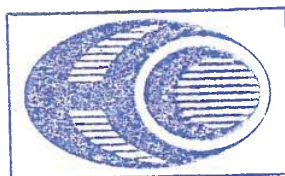
PARAMETER*	TEST METHOD	RESULT	STD ^{/1}	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Witchawan Singto)

GPS = Sampling at UTM 47P 731088E 1406270N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-0996

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Oxidation Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65120996
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 08:44-09:44
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218406 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

REMARK:

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731088E 1406270N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0930

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mucang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Expoxidation Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080930
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:00-12:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20200403079 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{/1}	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Witchawan Singto)

GPS = Sampling at UTM 47P 731244E 1406145N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-0997

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Expoxidation Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65120997
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:04-10:04
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218411 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

REMARK:

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731244E 1406145N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0931

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Expoxidation Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080931
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:00-12:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20200403079 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{/1}	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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.

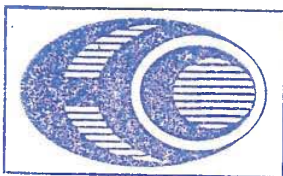
(Sampling By Mr. Witchawan Singto)

GPS = Sampling at UTM 47P 731244E 1406145N

Examined By

(Miss Thanatporm Klinsoyon)

13/09/2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-0998

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Expoxidation Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65120998
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:04-10:04
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218383 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731244E 1406145N

Examined By

(Miss Thanatporn Klinsoyon)

10/01/2023



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0932

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Expoxidation Section
 SAMPLING DATE : 25/08/2022
 RECEIVED DATE : 30/08/2022
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min
 Serial No. 20200403079
 SAMPLE NO. : A65080932
 SAMPLING TIME : 11:00-11:50
 TESTED DATE : 30/08/2022-19/09/2022
 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731244E 1406145N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

21/09/2022

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Request No. ATR6512056

Report No. 6512-0999

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Expoxidation Section
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65120999
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:04-09:54
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-10/01/2023
Serial No. 218385 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731244E 1406145N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0933

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : C3/PO Purification Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080933
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:02-12:02
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20200403063 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{/1}	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Witchawan Singto)

GPS = Sampling at UTM 47P 731204E 1406197N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1000

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : C3/PO Purification Section
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121000
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:01-10:01
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-29/12/2022
Serial No. 218405 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

REMARK:

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731204E 1406197N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0934

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : C3/PO Purification Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080934
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:02-12:02
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20200403063 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{/1}	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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. Witchawan Singto)

GPS = Sampling at UTM 47P 731204E 1406197N

Examined By

(Miss Thanatporn Klinsoon)

13/09/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1001

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : C3/PO Purification Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121001
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:01-10:01
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218388 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731204E 1406197N

Examined By

(Miss Thanatporn Klinsoon)

10/01/2023



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0935

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : C3/PO Purification Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080935
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:02-11:52
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 20200403063 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731204E 1406197N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

21/09/2022

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Request No. ATR6512056

Report No. 6512-1002

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : C3/PO Purification Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121002
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:01-09:51
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-10/01/2023
 Serial No. 218412 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731204E 1406197N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoapon)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0936

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Hydrogenation Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080936
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:05-12:05
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 218405 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

REMARK:

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Witchawan Singto)

GPS = Sampling at UTM 47P 731204E 1406213N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1003

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Hydrogenation Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121003
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 08:52-09:52
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218408 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ¹	UNIT
Cumene	Sorbent Adsorption, Gas	< 0.72	245	mg/m ³
	Chromatography/NIOSH1501	< 0.15	50	ppm

REMARK:

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

* Parameter not have License Registration of Department of Labour Protection and Welfare.

(Sampling By Mr. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731204E 1406213N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0937

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : PO Purification Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080937
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:10-12:10
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20180903084 REPORTED DATE : 13/09/2022

PARAMETER*	TEST METHOD	RESULT	STD ^{1/}	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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. Witchawan Singto)

GPS = Sampling at UTM 47P 731136E 1406237N

Examined By

(Miss Thanatporn Klinsoon)

13/09/2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1004

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : PO Purification Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121004
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 08:57-09:57
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 27/12/2022-29/12/2022
 Serial No. 218432 REPORTED DATE : 10/01/2023

PARAMETER*	TEST METHOD	RESULT	STD ^{1/}	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m ³
	Chromatography/NIOSH 2555	< 5.54	1,000	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. Aocha Khwansirimongkon)

GPS = Sampling at UTM 47P 731136E 1406237N

Examined By

(Miss Thanatporn Klinsopon)

10/01/2023



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0938

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : PO Purification Section
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080938
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:10-12:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 20180903084 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	0.60	240	mg/m ³
		0.25	100	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 Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731136E 1406237N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoyon)

21/09/2022

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Request No. ATR6512056

Report No. 6512-1005

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : PO Purification Section
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121005
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 08:57-09:47
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 27/12/2022-10/01/2023
 Serial No. 218391 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731136E 1406237N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopton)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0940

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 1 (TK-1460)
SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080940
RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:25-12:25
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 30/08/2022-08/09/2022
Serial No. 20100401021 REPORTED DATE : 13/09/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	1.96	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 730981E 1406187N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopon)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1006

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 1 (TK-1460)
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121006
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:13-10:13
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 27/12/2022-07/01/2023
Serial No. 20180903076 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	2.66	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 730981E 1406187N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopon)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0941

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Tank Farm 2 (TK-1456)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080941
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:25-12:25
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20100401024 REPORTED DATE : 13/09/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	2.03	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731017E 1406244N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1007

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 2 (TK-1456)
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121007
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:08-10:08
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 27/12/2022-07/01/2023
Serial No. 20180903093 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	4.04	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731017E 1406244N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsonon)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0939

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : Tank Farm 3 (TK-1693)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080939
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:20-12:20
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 30/08/2022-08/09/2022
 Serial No. 20181001042 REPORTED DATE : 13/09/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	1.72	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1008

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 3 (TK-1693)
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121008
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:20-10:20
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 27/12/2022-07/01/2023
Serial No. 20150302004 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	3.37	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

10/01/2023

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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Request No. ATR6508049

Report No. 6508-0942

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 4 (Tk-5402)
SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080942
RECEIVED DATE : 30/08/2022 SAMPLING TIME : 11:25-12:25
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 30/08/2022-08/09/2022
Serial No. 20180903094 REPORTED DATE : 13/09/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	1.92	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 730961E 1406269N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopon)

13/09/2022

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Request No. ATR6512056

Report No. 6512-1009

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : Tank Farm 4 (TK-5402)
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121009
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 09:16-10:16
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 27/12/2022-07/01/2023
Serial No. 20160502018 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	2.50	ppm

REMARK:

** Parameter not have License Registration of Department of Labour Protection and Welfare.

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 730961E 1406269N



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

10/01/2023

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Request No. ATR6508049

Report No. 6508-0943

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณนารากร สุดสายตา)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080943
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 218444 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์น ไทย คอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

21/09/2022

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Request No. ATR6508049

Report No. 6508-0944

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณชุกรี ประเสริฐคำ)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080944
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 218412 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ^{1/2}	STD ^{1/}	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

^{1/} Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.^{2/} ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopon)

21/09/2022

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Request No. ATR6508049

Report No. 6508-0945

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณสกลภัค คำภาพงษ์)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080945
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 218383 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoon)

21/09/2022

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Request No. ATR6508049

Report No. 6508-0946

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณวีระวร อรรถสังข์)
SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080946
RECEIVED DATE : 30/08/2022 SAMPLING TIME : 07:00-19:00
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 30/08/2022-19/09/2022
Serial No. 218408 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ^{/2}	STD ^{/1}	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

^{/1} Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.^{/2} ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsohon)

21/09/2022

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Request No. ATR6508049

Report No. 6508-0947

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (อุณหภูมิพลุ่มนึ่ง)
 SAMPLING DATE : 25/08/2022 SAMPLE NO. : A65080947
 RECEIVED DATE : 30/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 30/08/2022-19/09/2022
 Serial No. 218391 REPORTED DATE : 21/09/2022

PARAMETER**	TEST METHOD	RESULT ^{/2}	STD ^{/1}	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:^{/1} Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.^{/2} ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Witchawan Singto)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoapon)

21/09/2022

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Request No. ATR6512056

Report No. 6512-1010

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณวัฒน์ชัย สุวรรณเมฆ)
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121010
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 27/12/2022-10/01/2023
 Serial No. 218444 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	0.14	240	mg/m ³
		0.06	100	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 Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoyon)

10/01/2023

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Request No. ATR6512056

Report No. 6512-1011

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณพงษ์นรินทร์ ลีตานา)
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121011
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 27/12/2022-17/01/2023
 Serial No. 218445 REPORTED DATE : 17/01/2023

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsopon)

17/01/2023

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Request No. ATR6512056

Report No. 6512-1012

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (อุณหภูมิ นุ่มนัม)
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121012
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 27/12/2022-17/01/2023
 Serial No. 218413 REPORTED DATE : 17/01/2023

PARAMETER**	TEST METHOD	RESULT ²	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	ND	240	mg/m ³
		ND	100	ppm

REMARK:

¹ Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.² ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m³ or 0.05 ppm.

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoyon)

17/01/2023

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Request No. ATR6512056

Report No. 6512-1013

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณอรรถโกวิท สิงห์โตทอง)
SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121013
RECEIVED DATE : 27/12/2022 SAMPLING TIME : 07:00-19:00
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 27/12/2022-10/01/2023
Serial No. 218403 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	STD ¹	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	0.22	240	mg/m ³
		0.09	100	ppm

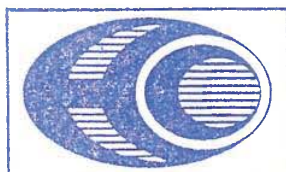
REMARK:

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 Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsohon)

10/01/2023

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Request No. ATR6512056

Report No. 6512-1014

TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.
 ADDRESS : Noen Phra - district,Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณวีระวร อรรถสังข์)
 SAMPLING DATE : 26/12/2022 SAMPLE NO. : A65121014
 RECEIVED DATE : 27/12/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 27/12/2022-10/01/2023
 Serial No. 218402 REPORTED DATE : 10/01/2023

PARAMETER**	TEST METHOD	RESULT	STD ^{1/}	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	0.58	240	mg/m ³
		0.25	100	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 Eastern Thai Consulting 1992 Co.,Ltd., (Mr. Aocha Khwansirimongkon)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsoyon)

10/01/2023

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TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : Air Compressors
PARAMETER* : L_{eq} 1 hr., L_{eq} 12 hr. & L_{max} SAMPLE NO. : 23559
DETERMINATION METHOD : ISO 11202:2010 MEASURING DATE : 26/08/2022
INSTRUMENT : Integrated Sound Level Meter ; RECEIVED DATE : 26/08/2022
S/N 01147300 : Type 2 REPORTED DATE : 03/09/2022

MEASURING TIME	RESULT		UNIT
	L_{eq} 1 hr.	L_{max}	
10:05-11:05	84.1	88.0	dB(A)
11:05-12:05	84.2	88.3	dB(A)
12:05-13:05	84.1	88.9	dB(A)
13:05-14:05	84.1	87.3	dB(A)
14:05-15:05	83.9	87.4	dB(A)
15:05-16:05	84.0	87.3	dB(A)
16:05-17:05	84.3	89.0	dB(A)
17:05-18:05	84.8	88.6	dB(A)
18:05-19:05	84.3	88.4	dB(A)
19:05-20:05	84.2	88.2	dB(A)
20:05-21:05	84.1	87.9	dB(A)
21:05-22:05	84.1	88.0	dB(A)
L_{eq} 12 hr.	84.2	—	dB(A)
Standard	87 ¹	140 ¹ , 115 ²	dB(A)

REMARK : ¹ Notification of The Ministry of Industry B.E. 2546 (2003)

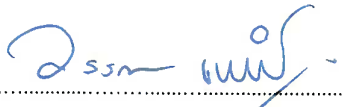
² Regulation of The Ministry of Labour B.E. 2559 (2016)

* Ms. Thanatporn Klinsopon is Section Head / Mrs. Wanpen Lhaochindawat is Technical Management
(Measurement By Ms. Pornnapa Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By


(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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WITHOUT THE WRITTEN APPROVAL LABORATORY

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
SAMPLE SOURCE : GCO Plant
SAMPLE POINT : C3 Recycle Compressors
PARAMETER* : L_{eq} 1 hr., L_{eq} 12 hr. & L_{max} SAMPLE NO. 23560
DETERMINATION METHOD : ISO 11202:2010 MEASURING DATE : 26/08/2022
INSTRUMENT : Integrated Sound Level Meter ; RECEIVED DATE : 26/08/2022
S/N 01147298 : Type 2 REPORTED DATE : 03/09/2022

MEASURING TIME	RESULT		UNIT
	L_{eq} 1 hr.	L_{max}	
10:00-11:00	84.5	86.5	dB(A)
11:00-12:00	84.8	87.0	dB(A)
12:00-13:00	84.8	86.8	dB(A)
13:00-14:00	84.9	86.0	dB(A)
14:00-15:00	84.5	86.6	dB(A)
15:00-16:00	84.5	85.6	dB(A)
16:00-17:00	84.9	90.4	dB(A)
17:00-18:00	84.6	85.8	dB(A)
18:00-19:00	84.6	86.8	dB(A)
19:00-20:00	84.5	86.6	dB(A)
20:00-21:00	84.5	86.5	dB(A)
21:00-22:00	84.6	86.8	dB(A)
L_{eq} 12 hr.	84.6	—	dB(A)
Standard	87 ¹⁾	140 ¹⁾ , 115 ²⁾	dB(A)

REMARK : ¹⁾ Notification of The Ministry of Industry B.E. 2546 (2003)

²⁾ Regulation of The Ministry of Labour B.E. 2559 (2016)

* Ms. Thanatporn Klinsoon is Section Head / Mrs. Wanpen Lhaochindawat is Technical Management

(Measurement By Ms. Pornnapha Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

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WITHOUT THE WRITTEN APPROVAL LABORATORY

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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FM-LAB-035/0/01-08-47

Request No. LA65-R0869

Report No. R6508-2805

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (คุณเจริญพงษ์ เกษไธ ID 26008178)
 MEASURING DATE : 23/08/2022 SAMPLE NO. : 23409
 RECEIVED DATE : 23/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060044 REPORTED DATE : 29/08/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	69.0	83 ^{/1}	dB(A)
L _{max} 12 hr	111.8	115 ^{/3}	dB(A)
12 Hour dose	3.80	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	70.8	85 ^{/1}	dB(A)

REMARK :

^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)

^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998

^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)

[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate

* Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

29/08/2022

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Request No. LA65-R0869

Report No. R6508-2804

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (ศูนย์พักพิง วิทยาลัย ID 26008179)
 MEASURING DATE : 23/08/2022 SAMPLE NO. : 23408
 RECEIVED DATE : 23/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXQ070008 REPORTED DATE : 29/08/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	76.4	83 ^{/1}	dB(A)
L _{max} 12 hr	113.0	115 ^{/3}	dB(A)
12 Hour dose	20.94	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	78.2	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์น ไทย คอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

29/08/2022

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Request No. LA65-R0869

Report No. R6508-2806

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (คู่มือตรวจวัด รังสี ID 26008180)
 MEASURING DATE : 23/08/2022 SAMPLE NO. : 23410
 RECEIVED DATE : 23/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0957 REPORTED DATE : 29/08/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	55.8	83 ^{/1}	dB(A)
L _{max} 12 hr	77.7	115 ^{/3}	dB(A)
12 Hour dose	0.18	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	57.6	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

29/08/2022

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Request No. LA65-R0869

Report No. R6508-2807

TEST REPORT

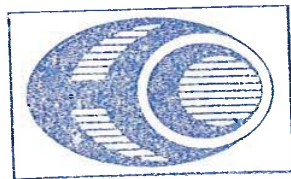
CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (คุณพิชัย ศรีชัย ID 26008018)
 MEASURING DATE : 23/08/2022 SAMPLE NO. : 23411
 RECEIVED DATE : 23/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0644 REPORTED DATE : 29/08/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	69.4	83 ^{/1}	dB(A)
L _{max} 12 hr	87.1	115 ^{/3}	dB(A)
12 Hour dose	4.10	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	71.1	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009

(Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

29/08/2022

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FM-LAB-035/0/01-08-47

Request No. LA65-R0874

Report No. R6508-2948

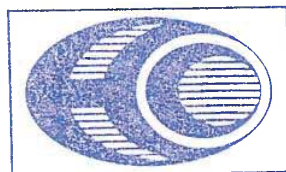
TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift D (Morning Shift) (คุณสุกรี ประเสริฐดำ ID 26008171)
 MEASURING DATE : 25/08/2022 SAMPLE NO. : 23552
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0954 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	74.3	83 ^{/1}	dB(A)
L _{max} 12 hr	94.1	115 ^{/3}	dB(A)
12 Hour dose	12.90	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	76.1	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Pornnapa Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2947

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift D (Morning Shift) (ถนนรากร สดสายตา ID 26008186)
 MEASURING DATE : 25/08/2022 SAMPLE NO. : 23551
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0644 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	64.0	83 ^{/1}	dB(A)
L _{max} 12 hr	87.7	115 ^{/3}	dB(A)
12 Hour dose	1.20	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	65.8	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Pornnapha Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2949

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift D (Morning Shift) (จุดสังเกต ID 26008172)
 MEASURING DATE : 25/08/2022 SAMPLE NO. : 23553
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0957 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	79.0	83 ^{/1}	dB(A)
L _{max} 12 hr	95.9	115 ^{/3}	dB(A)
12 Hour dose	37.70	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	80.8	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Pornnapha Phongphet)



Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2951

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift B (Morning Shift) (คุณภัทรพล นุ่มนึ่ง ID 26008019)
 MEASURING DATE : 25/08/2022 SAMPLE NO. : 23555
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CA8889 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	66.2	83 ^{/1}	dB(A)
L _{max} 12 hr	84.4	115 ^{/3}	dB(A)
12 Hour dose	2.00	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	68.0	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009

(Measurement By Ms. Pornnapha Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2950

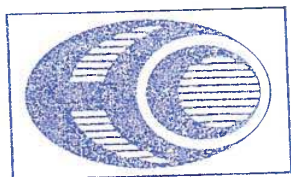
TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift B (Morning Shift) (คุณวีระวร อรรถสังข์ ID 26008182)
 MEASURING DATE : 25/08/2022 SAMPLE NO. : 23554
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0643 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	75.3	83 ^{/1}	dB(A)
L _{max} 12 hr	94.4	115 ^{/3}	dB(A)
12 Hour dose	16.20	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	77.1	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Pornnapa Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2954

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift B (Morning Shift) (คุณอรุณ โกวิท สิงห์โตทอง ID 26008184)
 MEASURING DATE : 26/08/2022 SAMPLE NO. : 23558
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0957 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	80.1	83 ^{/1}	dB(A)
L _{max} 12 hr	98.3	115 ^{/3}	dB(A)
12 Hour dose	48.00	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	81.8	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009

(Measurement By Ms. Pornnapha Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2953

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift B (Morning Shift) (คุณวัฒน์ชัย สุวรรณเมฆ ID 26008185)
 MEASURING DATE : 26/08/2022 SAMPLE NO. : 23557
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0643 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	53.2	83 ^{/1}	dB(A)
L _{max} 12 hr	81.2	115 ^{/3}	dB(A)
12 Hour dose	0.10	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	55.0	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Pornnapa Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0874

Report No. R6508-2952

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift B (Morning Shift) (จุดพิกัดแผนที่ ID 26008175)
 MEASURING DATE : 26/08/2022 SAMPLE NO. : 23556
 RECEIVED DATE : 26/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CA8889 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	52.3	83 ^{/1}	dB(A)
L _{max} 12 hr	74.1	115 ^{/3}	dB(A)
12 Hour dose	0.08	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	54.0	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009

(Measurement By Ms. Pornnapha Phongphet)



Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0875

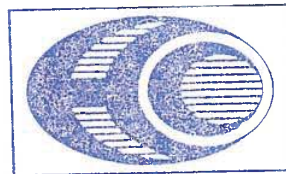
Report No. R6508-2959

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (คุณนวกาศย์ แสงสุรินทร์ ID 26008183)
 MEASURING DATE : 29/08/2022 SAMPLE NO. : 23563
 RECEIVED DATE : 29/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0954 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	71.7	83 ^{/1}	dB(A)
L _{max} 12 hr	92.2	115 ^{/3}	dB(A)
12 Hour dose	7.00	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	73.5	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Thanatporn Klinsoon)



Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0875

Report No. R6508-2958

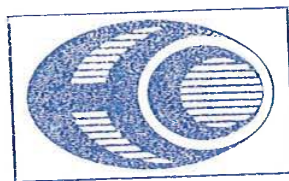
TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (คู่มือมาตรฐานเสียง ID 26008176)
 MEASURING DATE : 29/08/2022 SAMPLE NO. : 23562
 RECEIVED DATE : 29/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0957 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) #	69.5	83 ^{/1}	dB(A)
L _{max} 12 hr	89.4	115 ^{/3}	dB(A)
12 Hour dose	4.20	100 ^{/2}	%
Time weighted average level (8-hr TWA) #	71.2	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- # Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Thanatporn Klinsopon)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0875

Report No. R6508-2957

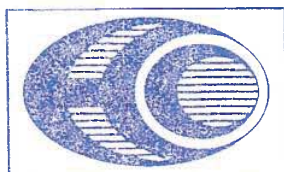
TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (คุณสรายุทธ์ วิลังคะ ID 26008174)
 MEASURING DATE : 29/08/2022 SAMPLE NO. : 23561
 RECEIVED DATE : 29/08/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0644 REPORTED DATE : 03/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	53.2	83 ^{/1}	dB(A)
L _{max} 12 hr	83.9	115 ^{/3}	dB(A)
12 Hour dose	0.10	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	55.0	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Thanatporn Klinsoon)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

03/09/2022

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Request No. LA65-R0937

Report No. R6509-3569

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (คุณธีระเดช แสงเดช ID 26008020)
 MEASURING DATE : 09/09/2022 SAMPLE NO. : 27648
 RECEIVED DATE : 12/09/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0640 REPORTED DATE : 14/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	77.2	83 ^{/1}	dB(A)
L _{max} 12 hr	93.0	115 ^{/3}	dB(A)
12 Hour dose	24.90	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	79.0	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

14/09/2022

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Request No. LA65-R0937

Report No. R6509-3571

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift D (Morning Shift) (คุณภาพวัสดุ อินนิงแท่น ID 26008189)
 MEASURING DATE : 12/09/2022 SAMPLE NO. : 27650
 RECEIVED DATE : 12/09/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0640 REPORTED DATE : 14/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	53.2	83 ^{/1}	dB(A)
L _{max} 12 hr	80.7	115 ^{/3}	dB(A)
12 Hour dose	0.10	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	55.0	85 ^{/1}	dB(A)

REMARK : ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
[#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
 * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
 (Measurement By Ms. Jutarat Suksaget)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

14/09/2022

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Request No. LA65-R0950

Report No. R6509-4047

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (จุดวัดการเทียงสูงเนิน ID 26008177)
 MEASURING DATE : 16/09/2022 SAMPLE NO. : 28134
 RECEIVED DATE : 16/09/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0644 REPORTED DATE : 21/09/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	77.0	83 ^{/1}	dB(A)
L _{max} 12 hr	95.9	115 ^{/3}	dB(A)
12 Hour dose	23.70	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	78.7	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009

(Measurement By Ms. Pornnapa Phongphet)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

21/09/2022

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Request No. LA65-R1009

Report No. R6510-0038

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift D (Morning Shift) (คุณจตุรงค์ แสงกระจ่าง ID 26008173)
 MEASURING DATE : 30/09/2022 SAMPLE NO. : 29327
 RECEIVED DATE : 30/09/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CA8879 REPORTED DATE : 05/10/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	82.7	83 ^{/1}	dB(A)
L _{max} 12 hr	95.6	115 ^{/3}	dB(A)
12 Hour dose	87.90	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	84.4	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Winida Jampaton)



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

05/10/2022

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Request No. LA65-R1018

Report No. R6510-0327

TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150
 SAMPLE SOURCE : GCO Plant
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (ศูนย์อภิรักษ์ คงศรี ID 26008192)
 MEASURING DATE : 05/10/2022 SAMPLE NO. : 29629
 RECEIVED DATE : 05/10/2022 SAMPLING TIME : 07:00-19:00
 SAMPLING INSTRUMENT : Noise dosimeter : S/N CB0956 REPORTED DATE : 10/10/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) [#]	61.7	83 ^{/1}	dB(A)
L _{max} 12 hr	82.5	115 ^{/3}	dB(A)
12 Hour dose	0.70	100 ^{/2}	%
Time weighted average level (8-hr TWA) [#]	63.5	85 ^{/1}	dB(A)

REMARK :

- ^{/1} Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- ^{/2} Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- ^{/3} Regulation of The Ministry of Labour B.E. 2559 (2016)
- [#] Based on Criteria 85 dB(A) ; 3 dB Exchange Rate
- * Parameter have License Registration of Department of Labour Protection and Welfare No. 0403-03-2564-0009
(Measurement By Ms. Winida Jampaton)



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Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

10/10/2022

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EASTERN THAI CONSULTING 1992 CO., LTD.

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



Test Report

Request No : W6507174

Report No : 6507-1599

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65070668

Sample Name : Final Check Basin**

Sampling Date : 06/07/2022**

Sampling By : ETC**

Sampling Time : 1:30 PM**

Sampling Method : Grab**

Received Date : 07/07/2022

Tested Date : 07/07/2022 - 19/07/2022

Reported Date : 22/07/2022

Parameter	Unit	Method	Result	Standard ¹
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	23.3	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	119	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	8.6	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.114	≤1
Temperature *	°C	Laboratory and Field Method	35	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	712	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	29	≤200

Physical Appearance : 1. Sample : yellowish, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI, # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Supharerk Phatklang (๓-๐๐3-๓-5637)*

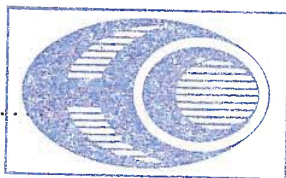
5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(๓-๐๐3-๓-4377)

22/07/2022



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Approved By :

(Mr. Kawee Suthasub)

(๓-๐๐3-๓-2205)

22/07/2022

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Test Report

Request No : W6508102

Report No : 6508-2192

Customer : GC Oxirane Co.,Ltd.

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150

Sampling Source : GCO Plant**

Sample No : W 65080426

Sample Name : Final Check Basin**

Sampling Date : 03/08/2022**

Sampling By : ETC**

Sampling Time : 10:45 AM**

Sampling Method : Grab**

Received Date : 04/08/2022

Tested Date : 04/08/2022 - 16/08/2022

Reported Date : 16/08/2022

Parameter	Unit	Method	Result	Standard ¹
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	149	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	414	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	6.4	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.945	≤1
Temperature *	°C	Laboratory and Field Method	30	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	492	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	7	≤200

Physical Appearance : 1. Sample : slightly - gray, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Songpon Phiwuan (๖-003-๓-๖๖๖๖)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(๖-003-๓-๖๖๖๖)

16/08/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)

(๖-003-๓-๖๖๖๖)

16/08/2022

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Test Report

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample Name : Final Check Basin**

Sampling By : ETC**

Sampling Method : Grab**

Tested Date : 08/09/2022 - 20/09/2022

Sample No : W 65090872

Sampling Date : 07/09/2022**

Sampling Time : 10:50 AM**

Received Date : 08/09/2022

Reported Date : 20/09/2022

Request No : W6509210

Report No : 6509-1509

Parameter	Unit	Method	Result	Standard ¹
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	74.4	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	252	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	6.8	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.302	≤1
Temperature *	°C	Laboratory and Field Method	28	≤45
Total Dissolved Solids #	mg/l	Dried at 180 °C (SM:2540C)	310	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 °C (SM:2540D)	8	≤200

Physical Appearance : 1. Sample : yellow, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Miss Pornpinan Viriyakusolkul (จ-003-จ-8334)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(จ-003-ค-4377)

20/09/2022



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Approved By :

(Mr. Kawee Suthasub)

(จ-003-ค-2205)

20/09/2022

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Test Report

Request No : W6510138

Report No : 6510-1385

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65100559

Sample Name : Final Check Basin**

Sampling Date : 05/10/2022**

Sampling By : ETC**

Sampling Time : 10:40 AM**

Sampling Method : Grab**

Received Date : 06/10/2022

Tested Date : 06/10/2022 - 18/10/2022

Reported Date : 18/10/2022

Parameter	Unit	Method	Result	Standard ¹
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	12.8	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	54	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	8.4	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤1
Temperature *	°C	Laboratory and Field Method	31	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	284	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	11	≤200

Physical Appearance : 1. Sample : yellow, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Parkpoom Buasawad (๖-๐๐3-๖-๗28๐)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)
(๖-๐๐3-๖-4377)
18/10/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)
(๖-๐๐3-๖-22๐5)
18/10/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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Test Report

Request No : W6512628

Report No : 6601-0647

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65122059

Sample Name : Final Check Basin**

Sampling Date : 28/12/2022**

Sampling By : ETC**

Sampling Time : 10:45 AM**

Sampling Method : Grab**

Received Date : 29/12/2022

Tested Date : 29/12/2022 - 11/01/2023

Reported Date : 11/01/2023

Parameter	Unit	Method	Result	Standard ^{1/}
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	12.8	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	< 40	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.8	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.062	≤1
Temperature *	°C	Laboratory and Field Method	28	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	63	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	12	≤200

Physical Appearance : 1. Sample : yellow, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Songpon Phiwan (จ-003-ท-7279)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(จ-003-ท-4377)

11/01/2023



บริษัท อีสเทิร์นไทยคอนซัลต์ 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)

(จ-003-ท-2205)

11/01/2023

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Test Report

Request No : W6507174

Report No : 6507-1600

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65070669

Sample Name : Cooling Water Blowdown**

Sampling Date : 06/07/2022**

Sampling By : ETC**

Sampling Time : 1:20 PM**

Sampling Method : Grab**

Received Date : 07/07/2022

Tested Date : 07/07/2022 - 16/07/2022

Reported Date : 22/07/2022

Parameter	Unit	Method	Result	Standard ¹
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	80	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.8	5.5 - 9
Temperature *	°C	Laboratory and Field Method	37	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	848	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	< 5	≤200

Physical Apperance : 1. Sample : yellowish, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. / Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI, # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Supharerk Phatklang (จ-003-จ-5637)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(จ-003-ค-4377)

22/07/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)

(จ-003-ค-2205)

22/07/2022

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Test Report

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample Name : Cooling Water Blowdown**

Sampling By : ETC**

Sampling Method : Grab**

Tested Date : 04/08/2022 - 16/08/2022

Sample No : W 65080428

Sampling Date : 03/08/2022**

Sampling Time : 10:35 AM**

Received Date : 04/08/2022

Reported Date : 31/08/2022

Request No : W6508102

Report No : 6508- 2194

Parameter	Unit	Method	Result	Standard ¹
Chemical Oxygen Demand #	mg/l	Closed Reflux,Titrimetric Method (SM:5220C)	79	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.4	5.5 - 9
Temperature *	°C	Laboratory and Field Method	28	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	744	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	< 5	≤200

Physical Appearance : 1. Sample : yellowish, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1./1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

SM – Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 23rd Edition, 2017.

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Songpon Phiwuan (๖-003-๓-๗๒๗)*

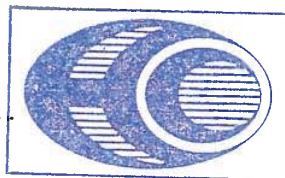
5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(๖-003-๓-4377)

31/08/2022



บริษัท อีสเทิร์นไทยคอนซัลต์ 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)

(๖-003-๓-๒๒๐๕)

31/08/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY
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Test Report

Request No : W6509210

Report No : 6509-1511

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65090874

Sample Name : Cooling Water Blowdown**

Sampling Date : 07/09/2022**

Sampling By : ETC**

Sampling Time : 10:40 AM**

Sampling Method : Grab**

Received Date : 08/09/2022

Tested Date : 08/09/2022 - 20/09/2022

Reported Date : 20/09/2022

Parameter	Unit	Method	Result	Standard ^{1/}
Chemical Oxygen Demand [#]	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	108	≤750
Oil and Grease [@]	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) [*]		Electrometric Method	8.3	5.5 - 9
Temperature [*]	°C	Laboratory and Field Method	32	≤45
Total Dissolved Solids [#]	mg/l	Dried at 180 C (SM:2540C)	472	≤3000
Total Suspended Solids [#]	mg/l	Dried at 103-105 C (SM:2540D)	10	≤200

Physical Appearance : 1. Sample : yellow, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1./1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI, # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Miss Pornpinan Viriyakusolkul (1-003-0-8334)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)
(1-003-0-4377)
20/09/2022



Approved By :

(Mr. Kawee Suthasub)
(1-003-0-2205)
20/09/2022

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Test Report

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample Name : Cooling Water Blowdown**

Sampling By : ETC**

Sampling Method : Grab**

Tested Date : 06/10/2022 - 14/10/2022

Sample No : W 65100561

Sampling Date : 05/10/2022**

Sampling Time : 10:30 AM**

Received Date : 06/10/2022

Reported Date : 17/10/2022

Request No : W6510138

Report No : 6510-1387

Parameter	Unit	Method	Result	Standard/ ¹
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	86	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	<3.0	≤10
pH (on site) *		Electrometric Method	7.4	5.5 - 9
Temperature *	°C	Laboratory and Field Method	35	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	608	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	16	≤200

Physical Appearance : 1. Sample : yellowish, lightly SS

2. Container : Normal [PE 0.5 *, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Parkpoom Buasawad (จ-003-ก-7280)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)

(จ-003-ก-4377)

17/10/2022



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Approved By :

(Mr. Kawee Suthasub)

(จ-003-ก-2205)

17/10/2022

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EASTERN THAI CONSULTING 1992 CO., LTD.

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



Test Report

Request No : W6512628

Report No : 6601-0648

Customer : GC Oxirane Co.,Ltd.**

Address : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150**

Sampling Source : GCO Plant**

Sample No : W 65122060

Sample Name : Cooling Water Blowdown**

Sampling Date : 28/12/2022**

Sampling By : ETC**

Sampling Time : 11:10 AM**

Sampling Method : Grab**

Received Date : 29/12/2022

Tested Date : 29/12/2022 - 06/01/2023

Reported Date : 11/01/2023

Parameter	Unit	Method	Result	Standard ¹
Chemical Oxygen Demand [#]	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	< 40	≤ 750
Oil and Grease [@]	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤ 10
pH (on site) [*]		Electrometric Method	7.0	5.5 - 9
Temperature [*]	°C	Laboratory and Field Method	29	≤ 45
Total Dissolved Solids [#]	mg/l	Dried at 180 C (SM:2540C)	532	≤ 3000
Total Suspended Solids [#]	mg/l	Dried at 103-105 C (SM:2540D)	< 5	≤ 200

Physical Appearance : 1. Sample : yellow, lightly SS

2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark : 1. /1 Eastern Industrial Estate (Map ta Phut), Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISI, # = ISO/IEC 17025:2017 Accredited by DSS,

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

3. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.

4. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Songpon Phiwan (3-003-ก-7279)*

5. ** = These data are non laboratory data.

Examined By :

(Miss Apiradee Chuen-arom)
(3-003-ก-4377)

11/01/2023



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)
(3-003-ก-2205)

11/01/2023

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Request No : W6508102

Report No : 6508-2193

TEST REPORT

Customer : GC Oxirane Co.,Ltd.**
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150**
Sampling Source : GCO Plant**
Sample Name : Salt Solution Package**
Sampling By : ETC**
Sampling Method : Grab**
Tested Date : 04/08/2022 – 16/08/2022

Sample No. : W 65080427
Sampling Date : 03/08/2022**
Sampling Time : 10:55 AM**
Received Date : 04/08/2022
Reported Date : 16/08/2022

Parameter	Unit	Method	Result	Standard ^{/1,2}
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	< 2.0	≤ 20
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	< 40	≤ 120
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤ 5
pH (on site) *		Electrometric Method	7.7	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤ 1
Temperature *	°C	Laboratory and Field Method	32	≤ 40
Total Dissolved Solids *	mg/l	Dried at 180 C (SM:2540C)	10,940	37,140***
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	10	≤ 50

Physical Appearance :
1. Sample : white, lightly SS
2. Container : Normal [PE 0.5 L*, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark :
1./1 Industrial Effluent Standard , Notification of the Ministry of Industry , B.E. 2560 (2017)
2./2 Notification of the Ministry of Natural Resources and Environmental, B.E. 2559 (2016)
3. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,
SM = Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 23rd Edition, 2017
4. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.
5. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Songpon Phiwan (ว-003-ค-7279)*
6. *** ของแข็งละลายน้ำทั้งหมด (Total Dissolved Solids) กรณีระบายลงแหล่งน้ำที่มีค่าของแข็งละลายน้ำทั้งหมดเกินกว่า 3,000 มิลลิกรัมต่อลิตร ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่จะระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้นไม่เกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมมาบตาพุด 500 เมตร มีค่า Total Dissolved Solids = 32,140 มิลลิกรัมต่อลิตร)

** = These data are non laboratory data

Examined By
(Miss Apiradee Chuen-arom)
(ว-003-ค-4377)
16/08/2022



Approved By
(Mr. Kawee Suthasub)
(ว-003-ค-2205)
16/08/2022

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Request No : W6509210

Report No : 6509-1510

TEST REPORT

Customer :	GC Oxirane Co.,Ltd.**	Sample No. :	W 65090873
Address :	Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150**	Sampling Date :	07/09/2022**
Sampling Source :	GCO Plant**	Sampling Time :	11:00 AM**
Sample Name :	Salt Solution Package**	Received Date :	08/09/2022
Sampling By :	ETC**	Reported Date :	20/09/2022
Sampling Method :	Grab**		
Tested Date :	08/09/2022 – 20/09/2022		

Parameter	Unit	Method	Result	Standard ^{1,2}
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	< 2.0	≤ 20
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	< 40	≤ 120
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤ 5
pH (on site) *		Electrometric Method	8.0	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.110	≤ 1
Temperature *	°C	Laboratory and Field Method	30	≤ 40
Total Dissolved Solids *	mg/l	Dried at 180 C (SM:2540C)	16,440	37,260***
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	5	≤ 50

Physical Appearance :
1. Sample : yellowish, lightly SS
2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

Remark :
1./1 Industrial Effluent Standard, Notification of the Ministry of Industry, B.E. 2560 (2017)
2./2 Notification of the Ministry of Natural Resources and Environmental, B.E. 2559 (2016)
3. @ = ISO/IEC 17025:2017 Accredited by TISI, # = ISO/IEC 17025:2017 Accredited by DSS,
SM = Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 23rd Edition, 2017
4. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.
5. * = Test Report/Sampling marked Not Accredited, Sampling By Miss Pornpinan Viriyakusolkul (จ-003-ค-8334)*
6. *** ของแข็งละลายน้ำทั้งหมด (Total Dissolved Solids) กรณีระบายลงแหล่งน้ำที่มีค่าของแข็งละลายน้ำทั้งหมดเกินกว่า 3,000 มิลลิกรัมต่อลิตร ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่จะระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้นไม่เกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมผดุง 500 เมตร มีค่า Total Dissolved Solids = 32,260 มิลลิกรัมต่อลิตร)

** = These data are non laboratory data

Examined By

(Miss Apiradee Chuen-arom)

(จ-003-ค-4377)

20/09/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Mr. Kawee Suthasub)

(จ-003-ค-2205)

20/09/2022

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Request No : W6510138

Report No : 6510-1386

TEST REPORT

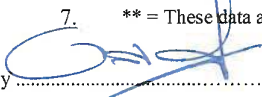
Customer	: GC Oxirane Co.,Ltd.**	Sample No.	: W 65100560
Address	: Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150**	Sampling Date	: 05/10/2022**
Sampling Source	: GCO Plant**	Sampling Time	: 10:50 AM**
Sample Name	: Salt Solution Package**	Received Date	: 06/10/2022
Sampling By	: ETC**	Reported Date	: 18/10/2022
Sampling Method	: Grab**		
Tested Date	: 06/10/2022 – 18/10/2022		

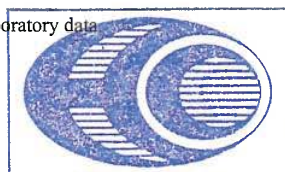
Parameter	Unit	Method	Result	Standard ^{1,2}
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	< 2.0	≤ 20
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	< 40	≤ 120
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤ 5
pH (on site) *		Electrometric Method	8.2	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤ 1
Temperature *	°C	Laboratory and Field Method	34	≤ 40
Total Dissolved Solids *	mg/l	Dried at 180 C (SM:2540C)	15,000	32,340***
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	10	≤ 50

Physical Appearance : 1. Sample : yellowish, lightly SS
2. Container : Normal [PE 0.5 L, PE 1.0 L, PE 1.8 L, G 1.0 L]

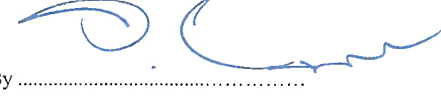
Remark : 1./1 Industrial Effluent Standard , Notification of the Ministry of Industry , B.E. 2560 (2017)
2./2 Notification of the Ministry of Natural Resources and Environmental, B.E. 2559 (2016)
3. @ = ISO/IEC 17025:2017 Accredited by TISI., # = ISO/IEC 17025:2017 Accredited by DSS,
SM = Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 23rd Edition, 2017
4. Miss Apiradee Chuen-arom is Section Head / Mr. Kawee Suthasub is Technical Management.
5. * = Test Report/Sampling marked Not Accredited, Sampling By Mr. Parkpoom Buasawad (จ-003-ค-7280)*
6. *** ของแข็งละลายน้ำทั้งหมด (Total Dissolved Solids) กรณีระบายลงแหล่งน้ำที่มีค่าของแข็งละลายน้ำทั้งหมดเกินกว่า 3,000 มิลลิกรัมต่อลิตร ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่จะระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้น ไม่นเกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมผาแดง 500 เมตร มีค่า Total Dissolved Solids = 27,340 มิลลิกรัมต่อลิตร)

7. ** = These data are non laboratory data

Examined By 
(Miss Apiradee Chuen-arom)
(จ-003-ค-4377)
18/10/2022



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Approved By 
(Mr. Kawee Suthasub)
(จ-003-ค-2205)
18/10/2022

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