

## ภาคผนวก ค

รายงานผลการตรวจวัดคุณภาพสิ่งแวดล้อม

Request No. ATR6506035

Report No. 6506-0771 - 6506-0777

## 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 : 17/06/2022 SAMPLE NO. : A65060771 - A65060777  
 TESTED DATE : 17/06/2022-27/06/2022 REPORTED DATE : 29/06/2022

PARAMETER*	TEST METHOD	SAMPLING DATE	RESULT	STD <sup>1/</sup>	UNIT
Total Suspended Particulate (TSP)	Gravimetric Method	06-07/06/2022	0.057	0.33	mg/m <sup>3</sup>
		07-08/06/2022	0.044	0.33	mg/m <sup>3</sup>
		08-09/06/2022	0.070	0.33	mg/m <sup>3</sup>
		09-10/06/2022	0.078	0.33	mg/m <sup>3</sup>
		10-11/06/2022	0.041	0.33	mg/m <sup>3</sup>
		11-12/06/2022	0.031	0.33	mg/m <sup>3</sup>
		12-13/06/2022	0.072	0.33	mg/m <sup>3</sup>

## REMARK:

<sup>1/</sup> 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 อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(Miss Thanatporn Klinsopon)

29/06/2022

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

COPY

Request No. ATR6506035

Report No. 6506-0764 - 6506-0770

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : วัดมาบชุลุด  
 RECEIVED DATE : 17/06/2022 SAMPLE NO. : A65060764 - A65060770  
 TESTED DATE : 17/06/2022-27/06/2022 REPORTED DATE : 29/06/2022

PARAMETER*	TEST METHOD	SAMPLING DATE	RESULT	STD <sup>1</sup>	UNIT
Particulate matter less than or Equal					
10 micrometers (PM 10)	Gravimetric Method	06-07/06/2022	0.040	0.12	mg/m <sup>3</sup>
		07-08/06/2022	0.039	0.12	mg/m <sup>3</sup>
		08-09/06/2022	0.043	0.12	mg/m <sup>3</sup>
		09-10/06/2022	0.046	0.12	mg/m <sup>3</sup>
		10-11/06/2022	0.035	0.12	mg/m <sup>3</sup>
		11-12/06/2022	0.020	0.12	mg/m <sup>3</sup>
		12-13/06/2022	0.048	0.12	mg/m <sup>3</sup>

## REMARK:

<sup>1</sup> 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 อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(Miss Thanatporn Klinsohon)

29/06/2022

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

COPY

Request No. ATR6506035

Report No. 6506-0778 - 6506-0784

## 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 : 17/06/2022 SAMPLE NO. : A65060778 - A65060784  
 TESTED DATE : 17/06/2022-27/06/2022 REPORTED DATE : 29/06/2022

PARAMETER**	TEST METHOD	SAMPLING DATE	RESULT <sup>/1</sup>	UNIT
Propylene oxide	NIOSH1612/GC-FID	06-07/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		07-08/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		08-09/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		09-10/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		10-11/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		11-12/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm
		12-13/06/2022	ND	mg/m <sup>3</sup>
			ND	ppm

## REMARK:

<sup>/1</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsonon)

29/06/2022

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

COPY



Request No. LA65-R0668

Report No. R6506-2278 – R6506-2284

## TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE POINT : วัดมาบขลุ่ย  
 PARAMETER\* : Nitrogen Dioxide  
 DETERMINATION METHOD : Chemiluminescence  
 INSTRUMENT : API Model M200E S/N 4084

SAMPLE NO. : 12560-12566  
 SAMPLING DATE : 06-13/06/2022  
 RECEIVED DATE : 13/06/2022  
 REPORTED DATE : 23/06/2022

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

## REMARK :

<sup>1</sup> Notification of The National Environmental Board Volume 33 B.E. 2552 (2009)<sup>2</sup> Start Time

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



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MS. THANATPORN KLINSOPON)

23/06/2022

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

COPY

Request No. LA65-R0668

Report No. R6506-2278 – R6506-2284

## TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.  
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150  
SAMPLE SOURCE : GCO Plant  
SAMPLE POINT : วัดมาบขลุ่ย  
PARAMETER\* : Nitrogen Dioxide  
DETERMINATION METHOD : Chemiluminescence  
INSTRUMENT : API Model M200E S/N 4084

SAMPLE NO. : 12560-12566  
SAMPLING DATE : 06-13/06/2022  
RECEIVED DATE : 13/06/2022  
REPORTED DATE : 23/06/2022

TIME / DATE	09-10/06/2022	10-11/06/2022	11-12/06/2022	UNIT
10:00 – 11:00 <sup>2</sup>	0.003	0.003	0.005	ppm
11:00 – 12:00	0.006	0.006	0.004	ppm
12:00 – 13:00	0.004	0.005	0.004	ppm
13:00 – 14:00	0.003	0.004	0.003	ppm
14:00 – 15:00	0.003	0.006	0.003	ppm
15:00 – 16:00	0.004	0.005	0.006	ppm
16:00 – 17:00	0.005	0.006	0.003	ppm
17:00 – 18:00	0.006	0.004	0.007	ppm
18:00 – 19:00	0.006	0.005	0.007	ppm
19:00 – 20:00	0.007	0.006	0.006	ppm
20:00 – 21:00	0.005	0.004	0.005	ppm
21:00 – 22:00	0.005	0.003	0.004	ppm
22:00 – 23:00	0.003	0.003	0.003	ppm
23:00 – 00:00	0.002	0.003	0.001	ppm
00:00 – 01:00	0.003	0.002	0.001	ppm
01:00 – 02:00	0.002	0.002	0.001	ppm
02:00 – 03:00	0.002	0.002	0.001	ppm
03:00 – 04:00	0.003	0.003	0.001	ppm
04:00 – 05:00	0.003	0.001	0.001	ppm
05:00 – 06:00	0.003	0.003	0.002	ppm
06:00 – 07:00	0.003	0.006	0.004	ppm
07:00 – 08:00	0.006	0.007	0.003	ppm
08:00 – 09:00	0.005	0.006	0.003	ppm
09:00 – 10:00	0.002	0.004	0.001	ppm
Maximum 1 hr.	0.007	0.007	0.007	ppm
Average 24 hr.	0.004	0.004	0.003	ppm
Standard (1 hr.) <sup>1</sup>	0.17	0.17	0.17	ppm

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

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MS. THANATPORN KLINSOPON)

23/06/2022

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

COPY

Request No. LA65-R0668

Report No. R6506-2278 – R6506-2284

## TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.  
ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong 21150  
SAMPLE SOURCE : GCO Plant  
SAMPLE POINT : วัดมาบชุลุด  
PARAMETER\* : Nitrogen Dioxide  
DETERMINATION METHOD : Chemiluminescence  
INSTRUMENT : API Model M200E S/N 4084

SAMPLE NO. : 12560-12566  
SAMPLING DATE : 06-13/06/2022  
RECEIVED DATE : 13/06/2022  
REPORTED DATE : 23/06/2022

TIME / DATE	12-13/06/2022	UNIT
10:00 – 11:00 <sup>2</sup>	0.001	ppm
11:00 – 12:00	0.001	ppm
12:00 – 13:00	0.001	ppm
13:00 – 14:00	0.003	ppm
14:00 – 15:00	0.010	ppm
15:00 – 16:00	0.008	ppm
16:00 – 17:00	0.006	ppm
17:00 – 18:00	0.005	ppm
18:00 – 19:00	0.004	ppm
19:00 – 20:00	0.004	ppm
20:00 – 21:00	0.012	ppm
21:00 – 22:00	0.012	ppm
22:00 – 23:00	0.007	ppm
23:00 – 00:00	0.004	ppm
00:00 – 01:00	0.003	ppm
01:00 – 02:00	0.003	ppm
02:00 – 03:00	0.002	ppm
03:00 – 04:00	0.002	ppm
04:00 – 05:00	0.001	ppm
05:00 – 06:00	0.001	ppm
06:00 – 07:00	0.002	ppm
07:00 – 08:00	0.007	ppm
08:00 – 09:00	0.010	ppm
09:00 – 10:00	0.009	ppm
Maximum 1 hr.	0.012	ppm
Average 24 hr.	0.005	ppm
Standard (1 hr.) <sup>1</sup>	0.17	ppm

## REMARK :

<sup>1</sup> Notification of The National Environmental Board Volume 33 B.E. 2552 (2009)<sup>2</sup> Start Time

\* Parameter Outside The Scope of The Registration of The Department of Industrial Works  
(Measurement By Mr. Tummarat Phol-akum)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

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

Approved By

(MS. THANATPORN KLINSOPON)

23/06/2022

COPY

## Wind Speed &amp; Wind Direction

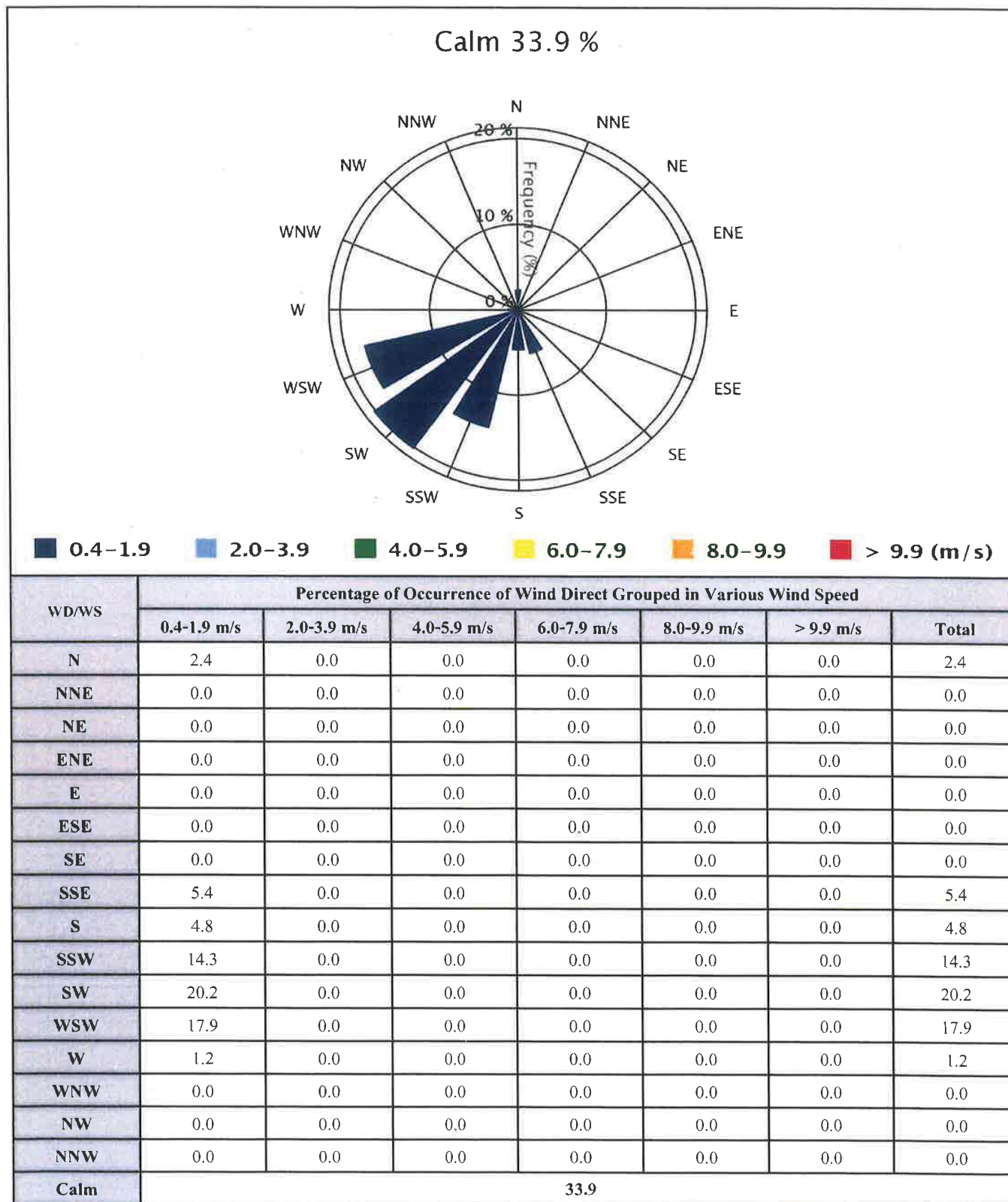
Request No. LA65-R066

GC Oxirane Co., Ltd. (GCO Plant)

Sample No. 1256

Sampling Source : วัดมาบขลุ่ด

Sampling Date : June 6-13, 2022



COPY



## Wind Speed &amp; Wind Direction

Request No. LA65-R0668

GC Oxirane Co., Ltd. (GCO Plant)

Sample No. 12567

Sampling Source : วัดมาฆสถู

Sampling Date : June 6-13, 2022

Time	June 6-7, 2022		June 7-8, 2022		June 8-9, 2022		June 9-10, 2022		June 10-11, 2022		June 11-12, 2022		June 12-13, 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
10:00-11:00	0.4	SW	0.9	SW	0.4	SW	0.9	WSW	0.4	SW	0.4	N	0.4	WSW
11:00-12:00	1.3	SSW	0.4	SSW	0.9	SW	0.9	SW	1.3	SSW	0.4	N	0.4	WSW
12:00-13:00	1.3	SSW	0.9	SW	1.3	SW	1.3	S	1.3	SSW	1.3	SW	0.4	N
13:00-14:00	0.9	SSW	0.9	SSW	1.3	SW	1.3	SSW	1.3	SSW	1.3	SW	1.3	SW
14:00-15:00	0.9	SSW	1.3	SSW	1.3	SW	1.3	SW	1.3	SSW	1.3	SSW	1.3	SW
15:00-16:00	0.9	SSW	0.9	SSW	1.3	SSW	1.3	SW	1.3	SW	0.9	SSW	1.3	SSW
16:00-17:00	0.9	SSW	0.9	SW	1.3	SSW	1.3	SW	0.9	SSE	0.0	-	1.3	SW
17:00-18:00	0.9	SW	0.9	SW	0.9	WSW	0.9	S	0.9	WSW	0.0	-	0.9	SW
18:00-19:00	0.9	SW	0.9	SW	0.4	SW	0.9	SSW	0.9	S	0.4	WSW	0.4	SSE
19:00-20:00	0.9	SW	0.4	SW	0.9	WSW	0.4	SSE	0.4	WSW	0.4	WSW	0.4	S
20:00-21:00	0.9	SW	0.4	SW	0.4	WSW	0.4	SSE	0.4	S	0.4	WSW	0.4	S
21:00-22:00	0.9	SW	0.0	-	0.4	WSW	0.4	SSE	0.4	SSW	0.4	WSW	0.4	S
22:00-23:00	0.0	-	0.0	-	0.0	-	0.4	S	0.9	WSW	0.4	WSW	0.4	SSE
23:00-00:00	0.0	-	0.0	-	0.0	-	0.4	SW	0.9	WSW	0.4	SSW	0.4	SSE
00:00-01:00	0.0	-	0.0	-	0.0	-	0.9	WSW	0.9	WSW	0.4	SSE	0.0	-
01:00-02:00	0.0	-	0.0	-	0.0	-	0.9	WSW	0.4	WSW	0.4	SSW	0.4	SSE
02:00-03:00	0.0	-	0.0	-	0.0	-	0.4	WSW	0.0	-	0.4	SW	0.4	WSW
03:00-04:00	0.0	-	0.0	-	0.4	WSW	0.0	-	0.0	-	0.4	WSW	0.4	WSW
04:00-05:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.4	N
05:00-06:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.4	WSW
06:00-07:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-
07:00-08:00	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	-
08:00-09:00	0.0	-	0.0	-	0.4	WSW	0.4	WSW	0.0	-	0.0	-	0.0	-
09:00-10:00	0.4	SW	0.4	WSW	0.9	WSW	0.4	W	0.0	-	0.4	W	0.0	-

COPY

Request No. LA65-0618

Report No. 6506-0447

## 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. : 03415  
 SAMPLING DATE : 08/06/2022 SAMPLING TIME : 11:20-12:05  
 RECEIVED DATE : 13/06/2022 REPORTED DATE : 27/06/2022  
 TESTED DATE : 13-16/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	451.00	°C	Oxygen Content :	3.20 %
Air Velocity :	10.88	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	23.78	m <sup>3</sup> /s	Atmospheric Temperature :	38.00 °C
Moisture Content :	6.89	%		

PARAMETER*	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			3.20 % O <sub>2</sub>	7 % O <sub>2</sub>		
Particulate	Isokinetic, Gravimetric	11:20-12:05	2.8	2.2	320, 113 <sup>3</sup>	mg/m <sup>3</sup>
(TSP)			0.067	-	2.866 <sup>3</sup>	g/s

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

\* SAMPLING BY MR. TEERAPONG NAULIN (ว-003-ค-5620)

GPS = Sampling at UTM 47P 731246E 1406443N

Examined By

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

27/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MSS THONGCHAI BOONSAK)

(ว-003-ค-5618)

27/06/2022

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

COPY

Request No. LA65-0618

Report No. 6506-0448

## 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. : 03416  
 SAMPLING DATE : 08/06/2022 SAMPLING TIME : 11:40-11:45  
 RECEIVED DATE : 13/06/2022 REPORTED DATE : 27/06/2022  
 TESTED DATE : 13-16/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	451.00	°C	Oxygen Content :	3.20 %
Air Velocity :	10.88	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	23.78	m <sup>3</sup> /s	Atmospheric Temperature :	38.00 °C
Moisture Content :	6.89	%		

PARAMETER*	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			3.20 % O <sub>2</sub>	7 % O <sub>2</sub>		
Oxides of Nitrogen	Chemical Absorption,	11:40-11:45	6.0	4.7	376, 28.6 <sup>3</sup>	mg/m <sup>3</sup>
(NO <sub>x</sub> as NO <sub>2</sub> )	Colorimetric		3.2	2.5	200, 15.2 <sup>3</sup>	ppm
			0.143		0.725 <sup>3</sup>	g/s

## REMARK:

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

\* SAMPLING BY MR. TEERAPONG NAULIN (ว-003-ค-5620)

GPS = Sampling at UTM 47P 731246E 1406443N

Examined By.....

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

27/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

27/06/2022

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

COPY



Request No. LA65-0618

Report No. 6506-0450

## 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. : 03418  
SAMPLING DATE : 08/06/2022 SAMPLING TIME : 11:30-12:00  
RECEIVED DATE : 13/06/2022 REPORTED DATE : 27/06/2022  
TESTED DATE : 13-20/06/2022  
STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.70	m	Type of Fuel :	Natural Gas
Temperature :	451.00	°C	Oxygen Content :	3.20 %
Air Velocity :	10.88	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	23.78	m <sup>3</sup> /s	Atmospheric Temperature :	38.00 °C
Moisture Content :	6.89	%		

PARAMETER	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			3.20 % O <sub>2</sub>	7 % O <sub>2</sub>		
Total Volatile Organic Compounds (TVOCs) <sup>4</sup>	U.S.EPA Method 25 A	11:30-12:00	1.88	1.48	- <sup>3</sup>	ppm
			0.045	-	2.383 <sup>3</sup>	g/s

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

(SAMPLING BY MR. TEERAPONG NAULIN)

ANALYSED BY SECOT CO.,LTD.

GPS = Sampling at UTM 47P 731246E 1406443N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

Thongchai Boonsak

(MR. THONGCHAI BOONSAK)

27/06/2022

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

COPY

Request No. LA65-0618

Report No. 6506-0451

## 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. : 03419  
 SAMPLING DATE : 08/06/2022 SAMPLING TIME : 11:00-11:40  
 RECEIVED DATE : 13/06/2022 REPORTED DATE : 27/06/2022  
 TESTED DATE : 13-16/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	307.00	°C	Oxygen Content :	9.11 %
Air Velocity :	17.82	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	31.99	m <sup>3</sup> /s	Atmospheric Temperature :	35.00 °C
Moisture Content :	7.65	%		

PARAMETER*	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			9.11 % O <sub>2</sub>	7 % O <sub>2</sub>		
Particulate	Isokinetic, Gravimetric	11:00-11:40	0.1	0.1	35, 28 <sup>3</sup>	mg/m <sup>3</sup>
(TSP)			0.003	-	0.880 <sup>3</sup>	g/s

## REMARK:

<sup>1</sup> NOTIFICATION OF MINISTRY OF INDUSTRY B.E. 2545 (2002)<sup>2</sup> DRY BASIS ( 25°C, 760 mm.Hg)<sup>3</sup> ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)

\* SAMPLING BY MR. TEERAPONG NAULIN (ว-003-ค-5620)

GPS = Sampling at UTM 47P 731287E 1406416N

Examined By



(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

27/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

27/06/2022

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



Request No. LA65-0618

Report No. 6506-0452

## 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  
 SAMPLING DATE : 08/06/2022  
 RECEIVED DATE : 13/06/2022  
 TESTED DATE : 13-17/06/2022  
 SAMPLE NO. : 03420  
 SAMPLING TIME : 11:20-11:25  
 REPORTED DATE : 27/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	307.00	°C	Oxygen Content :	9.11 %
Air Velocity :	17.82	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	31.99	m <sup>3</sup> /s	Atmospheric Temperature :	35.00 °C
Moisture Content :	7.65	%		

PARAMETER*	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			9.11 % O <sub>2</sub>	7 % O <sub>2</sub>		
Oxides of Nitrogen	Chemical Absorption,	11:20-11:25	3.5	4.1	150, 15.7 <sup>3</sup>	mg/m <sup>3</sup>
(NO <sub>x</sub> as NO <sub>2</sub> )	Colorimetric		1.9	2.2	79.7, 8.3 <sup>3</sup>	ppm
			0.112	-	0.490 <sup>3</sup>	g/s

## REMARK:

<sup>1</sup> NOTIFICATION OF MINISTRY OF INDUSTRY B.E. 2545 (2002)<sup>2</sup> DRY BASIS ( 25°C, 760 mm.Hg)<sup>3</sup> ค่ากำหนดตามรายงานการประเมินผลกระทบสิ่งแวดล้อม (EIA)

\* SAMPLING BY MR. TEERAPONG NAULIN (ว-003-ค-5620)

GPS = Sampling at UTM 47P 731287E 1406416N

Examined By

(MISS APIRADEE CHUEN-AROM)

(ว-003-ค-4377)

27/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

Thongchai Boonsak

(MR. THONGCHAI BOONSAK)

(ว-003-ค-5618)

27/06/2022

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

COPY

Request No. LA65-0618

Report No. 6506-0454

## 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. : 03422  
 SAMPLING DATE : 08/06/2022 SAMPLING TIME : 11:40-12:10  
 RECEIVED DATE : 13/06/2022 REPORTED DATE : 27/06/2022  
 TESTED DATE : 13-20/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	307.00	°C	Oxygen Content :	9.11 %
Air Velocity :	17.82	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>2</sup> :	31.99	m <sup>3</sup> /s	Atmospheric Temperature :	35.00 °C
Moisture Content :	7.65	%		

PARAMETER	TEST METHOD	TIME	RESULT <sup>2</sup>		STD <sup>1</sup>	UNIT
			9.11 % O <sub>2</sub>	7 % O <sub>2</sub>		
Total Volatile Organic Compounds (TVOCs) <sup>4</sup>	U.S.EPA Method 25 A	11:40-12:10	41.67	49.13	- <sup>3</sup>	ppm
			1.333	-	2.989 <sup>3</sup>	g/s

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

(SAMPLING BY MR. TEERAPONG NAULIN)

ANALYSED BY SECOT CO.,LTD.

GPS = Sampling at UTM 47P 731287E 1406416N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By



(MR. THONGCHAI BOONSAK)

27/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY



Request No. LA65-0618

Report No. 6506-0455

## 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  
 SAMPLING DATE : 08/06/2022  
 RECEIVED DATE : 13/06/2022  
 TESTED DATE : 13-16/06/2022  
 SAMPLE NO. : 03423  
 SAMPLING TIME : 11:40-12:10  
 REPORTED DATE : 27/06/2022

## STACK DESCRIPTION

Height :	60.00	m	Type of Process :	Combustion
Diameter :	2.20	m	Type of Fuel :	Natural Gas
Temperature :	307.00	°C	Oxygen Content :	9.11 %
Air Velocity :	17.82	m/s	Barometric Pressure :	757.75 mm.Hg
Flow rate <sup>1/</sup> :	31.99	m <sup>3</sup> /s	Atmospheric Temperature :	35.00 °C
Moisture Content :	7.65	%		

PARAMETER*	TEST METHOD	TIME	RESULT <sup>1/</sup>		UNIT
			9.11 % O <sub>2</sub>	7 % O <sub>2</sub>	
Benzene	Sorbent Adsorption,	11:40-12:10	<1.68	<1.68 <sup>2/</sup>	mg/m <sup>3</sup>
	Gas Chromatography		<0.52	<0.52 <sup>2/</sup>	ppm
			<0.054		g/s

**REMARK:**<sup>1/</sup> DRY BASIS ( 25°C, 760 mm.Hg)<sup>2/</sup> RESULTS OF ACTUAL %O<sub>2</sub>

\* PARAMETER OUTSIDE THE SCOPE OF THE REGISTRATION

OF THE DEPARTMENT OF INDUSTRIAL WORKS

(SAMPLING BY MR. TEERAPONG NAULIN)

GPS = Sampling at UTM 47P 731287E 1406416N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By... *Thongchai Boonsak*

(MR. THONGCHAI BOONSAK)

27/06/2022

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

COPY



**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 : In-house Method: A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2

SAMPLE NO. : 02081  
MEASURING DATE : 05-06/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	05-06/02/2022 ( $L_{eq}$ )	05-06/02/2022 ( $L_{max}$ )	05-06/02/2022 ( $L_{90\#}$ )	UNIT
09:00 – 10:00 <sup>3</sup>	56.4	66.1	54.5	dB(A)
10:00 – 11:00	57.7	62.5	56.5	dB(A)
11:00 – 12:00	57.2	69.6	55.5	dB(A)
12:00 – 13:00	58.2	69.1	57.1	dB(A)
13:00 – 14:00	58.9	68.7	58.2	dB(A)
14:00 – 15:00	58.7	67.3	57.7	dB(A)
15:00 – 16:00	57.9	64.3	57.0	dB(A)
16:00 – 17:00	57.1	64.9	56.4	dB(A)
17:00 – 18:00	57.5	67.1	56.3	dB(A)
18:00 – 19:00	57.7	68.4	56.8	dB(A)
19:00 – 20:00	57.7	64.1	57.0	dB(A)
20:00 – 21:00	57.9	59.9	57.3	dB(A)
21:00 – 22:00	58.4	76.4	56.9	dB(A)
22:00 – 23:00	57.2	64.6	56.9	dB(A)
23:00 – 00:00	58.2	59.9	57.7	dB(A)
00:00 – 01:00	58.4	61.1	57.9	dB(A)
01:00 – 02:00	57.9	61.4	57.3	dB(A)
02:00 – 03:00	57.3	73.3	56.2	dB(A)
03:00 – 04:00	57.0	58.7	56.1	dB(A)
04:00 – 05:00	56.6	61.1	55.9	dB(A)
05:00 – 06:00	56.3	58.0	55.6	dB(A)
06:00 – 07:00	56.7	65.3	55.7	dB(A)
07:00 – 08:00	55.9	62.3	55.0	dB(A)
08:00 – 09:00	55.7	59.2	55.1	dB(A)
$L_{eq}$ 24 hr.	57.5	-	-	dB(A)
$L_{dn\#}$	63.8	-	-	dB(A)
Maximum	-	76.4	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>#</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory  
<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)  
<sup>2</sup> Notification of Ministry of the Industry B.E. 2548 (2005)  
<sup>3</sup> Start Time  
\* Parameter Outside The Scope of The Registration of The Department of Industrial Works  
(Ms. Thanatporn Klinson is Section Head, Mrs. Wanpen Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Pholaphan)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

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

Approved By:   
(MRS. WANPEN LHAOCHINDAWAT)

18/02/2022

**COPY**

**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2  
SAMPLE NO. : 02082  
MEASURING DATE : 06-07/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	06-07/02/2022 ( $L_{eq}$ )	06-07/02/2022 ( $L_{max}$ )	06-07/02/2022 ( $L_{90\%}$ )	UNIT
09:00 – 10:00 <sup>3</sup>	55.2	68.2	53.9	dB(A)
10:00 – 11:00	54.8	59.2	53.4	dB(A)
11:00 – 12:00	54.8	57.3	53.3	dB(A)
12:00 – 13:00	54.7	60.2	52.9	dB(A)
13:00 – 14:00	57.9	63.3	56.8	dB(A)
14:00 – 15:00	58.8	66.2	57.8	dB(A)
15:00 – 16:00	59.1	70.9	58.1	dB(A)
16:00 – 17:00	58.8	64.1	57.8	dB(A)
17:00 – 18:00	58.3	61.5	57.5	dB(A)
18:00 – 19:00	58.2	70.4	56.9	dB(A)
19:00 – 20:00	57.8	64.2	57.2	dB(A)
20:00 – 21:00	58.2	60.5	57.6	dB(A)
21:00 – 22:00	58.3	60.1	57.6	dB(A)
22:00 – 23:00	58.6	63.2	57.6	dB(A)
23:00 – 00:00	59.1	63.5	58.2	dB(A)
00:00 – 01:00	58.9	67.9	58.2	dB(A)
01:00 – 02:00	58.4	61.5	57.7	dB(A)
02:00 – 03:00	58.9	61.0	58.2	dB(A)
03:00 – 04:00	58.9	62.9	58.2	dB(A)
04:00 – 05:00	58.8	60.9	58.1	dB(A)
05:00 – 06:00	58.5	67.1	57.5	dB(A)
06:00 – 07:00	57.7	64.1	56.8	dB(A)
07:00 – 08:00	57.5	61.0	56.9	dB(A)
08:00 – 09:00	56.4	62.8	55.5	dB(A)
$L_{eq}$ 24 hr.	58.0	-	-	dB(A)
$L_{dn\#}$	64.9	-	-	dB(A)
Maximum	-	70.9	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>3</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

<sup>3</sup> Start Time

\* Parameter Outside The Scope of The Registration of The Department of Industrial Works  
(Ms. Thanatporn Klinsonop is Section Head, Mrs. Wanpen Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Photakham)



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

18/02/2022

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

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

**COPY**



**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2

SAMPLE NO. : 02083  
MEASURING DATE : 07-08/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

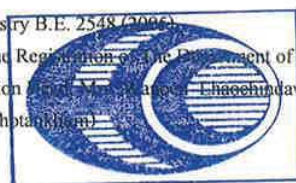
TIME \ DATE	07-08/02/2022 ( $L_{eq}$ )	07-08/02/2022 ( $L_{max}$ )	07-08/02/2022 ( $L_{90\#}$ )	UNIT
09:00 – 10:00 <sup>1</sup>	55.1	58.3	53.9	dB(A)
10:00 – 11:00	54.9	64.5	53.4	dB(A)
11:00 – 12:00	55.9	58.1	54.8	dB(A)
12:00 – 13:00	56.8	59.6	55.7	dB(A)
13:00 – 14:00	57.7	64.1	56.7	dB(A)
14:00 – 15:00	57.5	62.5	56.2	dB(A)
15:00 – 16:00	57.3	64.1	55.7	dB(A)
16:00 – 17:00	57.1	61.7	54.2	dB(A)
17:00 – 18:00	56.3	61.2	54.9	dB(A)
18:00 – 19:00	57.2	70.7	56.3	dB(A)
19:00 – 20:00	58.3	60.8	57.6	dB(A)
20:00 – 21:00	58.4	61.0	57.8	dB(A)
21:00 – 22:00	58.8	60.1	58.2	dB(A)
22:00 – 23:00	58.6	60.1	57.9	dB(A)
23:00 – 00:00	59.4	60.7	58.5	dB(A)
00:00 – 01:00	59.5	61.0	58.8	dB(A)
01:00 – 02:00	60.0	61.7	59.4	dB(A)
02:00 – 03:00	59.4	62.7	58.4	dB(A)
03:00 – 04:00	58.5	61.2	57.9	dB(A)
04:00 – 05:00	58.3	63.2	57.7	dB(A)
05:00 – 06:00	58.1	66.7	57.1	dB(A)
06:00 – 07:00	57.3	63.7	56.4	dB(A)
07:00 – 08:00	57.1	60.6	56.5	dB(A)
08:00 – 09:00	57.3	63.7	56.4	dB(A)
$L_{eq}$ 24 hr.	57.9	-	-	dB(A)
$L_{dn\#}$	65.1	-	-	dB(A)
Maximum	-	70.7	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** \* Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

\* Parameter Outside The Scope of The Regulation of the Department of Industrial Works  
(Ms. Thanatporn Klinsoon is Section Chief of Management, Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Photakham)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

<sup>2</sup> Start Time

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

18/02/2022

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

**COPY**

**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2  
SAMPLE NO. : 02084  
MEASURING DATE : 08-09/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	08-09/02/2022 ( $L_{eq}$ )	08-09/02/2022 ( $L_{max}$ )	08-09/02/2022 ( $L_{90\#}$ )	UNIT
09:00 – 10:00 <sup>3</sup>	57.7	65.2	57.0	dB(A)
10:00 – 11:00	57.6	68.3	56.7	dB(A)
11:00 – 12:00	57.6	62.6	56.8	dB(A)
12:00 – 13:00	57.6	62.2	56.7	dB(A)
13:00 – 14:00	57.7	63.5	56.8	dB(A)
14:00 – 15:00	57.4	59.7	56.5	dB(A)
15:00 – 16:00	57.7	59.7	57.0	dB(A)
16:00 – 17:00	58.0	63.2	57.2	dB(A)
17:00 – 18:00	58.4	63.3	57.6	dB(A)
18:00 – 19:00	59.0	69.7	58.3	dB(A)
19:00 – 20:00	59.4	60.9	58.7	dB(A)
20:00 – 21:00	59.4	60.7	58.8	dB(A)
21:00 – 22:00	59.4	61.3	58.7	dB(A)
22:00 – 23:00	59.2	60.9	58.4	dB(A)
23:00 – 00:00	58.9	60.8	58.3	dB(A)
00:00 – 01:00	58.7	60.5	57.9	dB(A)
01:00 – 02:00	58.7	60.8	58.0	dB(A)
02:00 – 03:00	58.8	60.8	58.1	dB(A)
03:00 – 04:00	59.0	62.4	58.3	dB(A)
04:00 – 05:00	59.1	61.4	58.4	dB(A)
05:00 – 06:00	59.1	64.6	58.3	dB(A)
06:00 – 07:00	58.5	64.9	57.6	dB(A)
07:00 – 08:00	58.3	61.8	57.7	dB(A)
08:00 – 09:00	58.5	64.9	57.6	dB(A)
$L_{eq}$ 24 hr.	58.5	-	-	dB(A)
$L_{dn\#}$	65.2	-	-	dB(A)
Maximum	-	69.7	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>#</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

<sup>3</sup> Start Time

\* Parameter Outside The Scope of The Registration of The Department of Industrial Works  
(Ms. Thanatporn Klinsonon is Section Head, Mrs. Wanpen Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Phonakarn)



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

18/02/2022

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด  
REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY  
THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL LABORATORY

**COPY**

**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2

SAMPLE NO. : 02085  
MEASURING DATE : 09-10/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	09-10/02/2022 ( $L_{eq}$ )	09-10/02/2022 ( $L_{max}$ )	09-10/02/2022 ( $L_{90\%}$ )	UNIT
09:00 – 10:00 <sup>3</sup>	58.5	66.9	57.8	dB(A)
10:00 – 11:00	58.7	62.5	57.9	dB(A)
11:00 – 12:00	58.6	70.1	57.6	dB(A)
12:00 – 13:00	58.0	65.2	56.9	dB(A)
13:00 – 14:00	58.2	66.3	57.1	dB(A)
14:00 – 15:00	58.4	64.5	57.3	dB(A)
15:00 – 16:00	58.6	68.8	57.7	dB(A)
16:00 – 17:00	58.5	65.6	57.6	dB(A)
17:00 – 18:00	58.6	65.3	57.7	dB(A)
18:00 – 19:00	59.1	64.4	58.3	dB(A)
19:00 – 20:00	59.2	62.4	58.4	dB(A)
20:00 – 21:00	59.5	61.6	58.6	dB(A)
21:00 – 22:00	59.2	61.6	58.4	dB(A)
22:00 – 23:00	59.0	69.4	58.3	dB(A)
23:00 – 00:00	59.3	61.3	58.5	dB(A)
00:00 – 01:00	59.0	61.2	58.2	dB(A)
01:00 – 02:00	59.0	60.8	58.2	dB(A)
02:00 – 03:00	59.0	61.3	58.3	dB(A)
03:00 – 04:00	59.0	60.6	58.3	dB(A)
04:00 – 05:00	59.0	61.9	58.3	dB(A)
05:00 – 06:00	59.7	66.1	58.8	dB(A)
06:00 – 07:00	59.4	65.8	58.5	dB(A)
07:00 – 08:00	58.4	64.8	57.5	dB(A)
08:00 – 09:00	59.8	63.3	59.2	dB(A)
$L_{eq}$ 24 hr.	58.9	-	-	dB(A)
$L_{dn\#}$	65.5	-	-	dB(A)
Maximum	-	70.1	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>3</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

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

(Ms. Thanatporn Klinsoon is Section Head, Mrs. Wanpen Lhaochindawat is Technical Management)

(Measurement By Mr. Tummarut Photanabun)



Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

<sup>3</sup> Start Time

18/02/2022

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

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

**COPY**

**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2  
SAMPLE NO. : 02086  
MEASURING DATE : 10-11/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	10-11/02/2022 ( $L_{eq}$ )	10-11/02/2022 ( $L_{max}$ )	10-11/02/2022 ( $L_{90\%}$ )	UNIT
09:00 – 10:00 <sup>3</sup>	58.2	61.4	57.8	dB(A)
10:00 – 11:00	58.5	74.6	57.7	dB(A)
11:00 – 12:00	59.5	79.6	57.7	dB(A)
12:00 – 13:00	58.4	62.0	57.6	dB(A)
13:00 – 14:00	59.3	71.9	57.8	dB(A)
14:00 – 15:00	59.7	75.1	57.9	dB(A)
15:00 – 16:00	58.6	62.2	57.7	dB(A)
16:00 – 17:00	59.1	70.3	55.9	dB(A)
17:00 – 18:00	61.2	79.4	56.8	dB(A)
18:00 – 19:00	59.0	65.6	58.0	dB(A)
19:00 – 20:00	59.1	61.6	58.4	dB(A)
20:00 – 21:00	59.9	65.3	58.8	dB(A)
21:00 – 22:00	60.8	64.1	59.0	dB(A)
22:00 – 23:00	59.7	62.4	58.6	dB(A)
23:00 – 00:00	59.4	60.7	58.4	dB(A)
00:00 – 01:00	58.7	60.1	58.2	dB(A)
01:00 – 02:00	58.8	61.3	58.0	dB(A)
02:00 – 03:00	60.1	74.5	59.0	dB(A)
03:00 – 04:00	59.3	60.8	58.5	dB(A)
04:00 – 05:00	58.7	59.6	58.1	dB(A)
05:00 – 06:00	59.4	68.0	58.4	dB(A)
06:00 – 07:00	58.6	65.0	57.7	dB(A)
07:00 – 08:00	58.9	65.3	58.0	dB(A)
08:00 – 09:00	58.7	62.2	58.1	dB(A)
$L_{eq}$ 24 hr.	59.3	-	-	dB(A)
$L_{dn\#}$	65.6	-	-	dB(A)
Maximum	-	79.6	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>3</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

\* Parameter Outside The Scope of The Registration of The Department of Industrial Works  
(Ms. Thanatporn Klinsoon is Section Head, Mrs. Wanpen Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Photakham)

<sup>3</sup> Start Time



Approved By:   
(MRS. WANPEN LHAOCHINDAWAT)

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

18/02/2022

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

**COPY**

**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 : In-house Method:A-DM-002 based on ISO 1996-1:2016  
INSTRUMENT : Integrated Sound Level Meter  
S/N G300957 : Type 2

SAMPLE NO. : 02087  
MEASURING DATE : 11-12/02/2022  
RECEIVED DATE : 12/02/2022  
REPORTED DATE : 18/02/2022

TIME \ DATE	11-12/02/2022 ( $L_{eq}$ )	11-12/02/2022 ( $L_{max}$ )	11-12/02/2022 ( $L_{90\#}$ )	UNIT
09:00 – 10:00 <sup>1</sup>	59.3	68.6	58.6	dB(A)
10:00 – 11:00	58.7	64.9	58.1	dB(A)
11:00 – 12:00	58.7	68.0	57.9	dB(A)
12:00 – 13:00	58.7	63.5	57.7	dB(A)
13:00 – 14:00	58.6	64.6	57.7	dB(A)
14:00 – 15:00	58.6	61.0	57.6	dB(A)
15:00 – 16:00	57.7	63.6	56.4	dB(A)
16:00 – 17:00	57.3	64.4	56.1	dB(A)
17:00 – 18:00	59.0	61.2	58.4	dB(A)
18:00 – 19:00	59.8	63.5	59.1	dB(A)
19:00 – 20:00	59.8	62.3	59.1	dB(A)
20:00 – 21:00	59.6	61.3	58.9	dB(A)
21:00 – 22:00	57.9	61.1	56.4	dB(A)
22:00 – 23:00	58.7	61.1	56.7	dB(A)
23:00 – 00:00	61.4	74.9	58.4	dB(A)
00:00 – 01:00	62.0	72.1	59.6	dB(A)
01:00 – 02:00	60.1	62.4	59.4	dB(A)
02:00 – 03:00	58.8	60.6	57.4	dB(A)
03:00 – 04:00	58.2	59.4	57.6	dB(A)
04:00 – 05:00	58.3	59.3	57.6	dB(A)
05:00 – 06:00	58.7	62.0	56.9	dB(A)
06:00 – 07:00	57.6	60.3	56.5	dB(A)
07:00 – 08:00	56.8	60.0	56.0	dB(A)
08:00 – 09:00	57.1	59.2	56.2	dB(A)
$L_{eq}$ 24 hr.	59.0	-	-	dB(A)
$L_{dn\#}$	65.8	-	-	dB(A)
Maximum	-	74.9	-	dB(A)
Standard	70 <sup>1</sup> , 70 <sup>2</sup>	115 <sup>1</sup> , 115 <sup>2</sup>	-	dB(A)

**REMARK :** <sup>1</sup> Test Report/Sampling marked 'Not TISI Accredited' in this report are not included in the TISI Accreditation Schedule for our laboratory

<sup>1</sup> Notification of Office of The National Environmental Board Volume 15 B.E. 2540 (1997)

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

\* Parameter Outside The Scope of The Regulation of The Department of Industrial Works  
(Ms. Thanatporn Klinsoon is Section Head, Mr. Wanpen Lhaochindawat is Technical Management)  
(Measurement By Mr. Tummarut Photachaiyaporn)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

<sup>13</sup> Start Time

18/02/2022

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

**COPY**



Request No. ATR6505016

Report No. 6505-0207

## 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 : 30/04/2022 SAMPLE NO. : A65050207  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 08:48-09:48  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-09/05/2022  
 Serial No. 218405 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>1/</sup> 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. Wattana Khotla)

GPS = Sampling at UTM 47P 731088E 1406270N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0208

## 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 : 30/04/2022 SAMPLE NO. : A65050208  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:10-10:10  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-09/05/2022  
 Serial No. 20180903081 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>/1</sup> 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. Wattana Khotla)

GPS = Sampling at UTM 47P 731244E 1406145N



Examined By.....

(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY



Request No. ATR6505016

Report No. 6505-0209

## 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 : 30/04/2022 SAMPLE NO. : A65050209  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:10-10:10  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 06/05/2022-07/05/2022  
 Serial No. 20180903081 REPORTED DATE : 02/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>/1</sup>	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m <sup>3</sup>
	Chromatography/NIOSH 2555	< 5.54	1,000	ppm

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.\* Parameter have License Registration of Department of Labour Protection and Welfare No.0201-03-2564-0008 and  
No.0202-03-2564-0005.

(Sampling By Mr. Wattana Khotla)

GPS = Sampling at UTM 47P 731244E 1406145N

Examined By



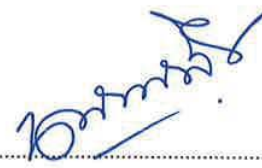
(Mr. Thongchai Boonsak)

02/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(Miss Nunnaphat Bakhuntod)

02/06/2022

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



Request No. ATR6505016

Report No. 6505-0210

## 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 : 30/04/2022 SAMPLE NO. : A65050210  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:10-10:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 20180903081 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731244E 1406145N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

 Examined By Thongchai Boonsak  
 (Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0211

## 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 : 30/04/2022  
 RECEIVED DATE : 06/05/2022  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min  
 Serial No. 218408  
 SAMPLE NO. : A65050211  
 SAMPLING TIME : 09:00-10:00  
 TESTED DATE : 06/05/2022-09/05/2022  
 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>1/</sup> 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. Wattana Khotla)

GPS = Sampling at UTM 47P 731204E 1406197N



Examined By.....

(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0212

## 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 : 30/04/2022 SAMPLE NO. : A65050212  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:00-10:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 06/05/2022-07/05/2022  
 Serial No. 218411 REPORTED DATE : 02/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>1/</sup>	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m <sup>3</sup>
	Chromatography/NIOSH 2555	< 5.54	1,000	ppm

## REMARK:

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

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

(Sampling By Mr. Wattana Khotla)

GPS = Sampling at UTM 47P 731204E 1406197N

Examined By



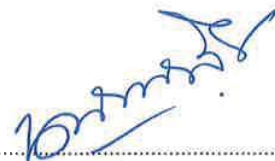
(Mr. Thongchai Boonsak)

02/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0213

## 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 : 30/04/2022 SAMPLE NO. : A65050213  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:00-09:50  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218385 REPORTED DATE : 02/06/2022

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

## REMARK:

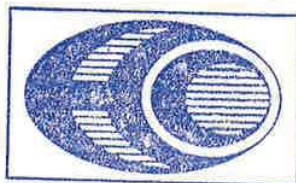
<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> or 0.05 ppm.

\*\* 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731204E 1406197N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY



Request No. ATR6505016

Report No. 6505-0214

## 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 : 30/04/2022 SAMPLE NO. : A65050214  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 08:55-09:55  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-09/05/2022  
 Serial No. 218445 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>/1</sup> 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. Wattana Khotla)

GPS = Sampling at UTM 47P 731204E 1406213N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0215

## 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 : 30/04/2022 SAMPLE NO. : A65050215  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 08:50-09:50  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 06/05/2022-07/05/2022  
 Serial No. 218391 REPORTED DATE : 02/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>1</sup>	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m <sup>3</sup>
	Chromatography/NIOSH 2555	< 5.54	1,000	ppm

## REMARK:

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

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

(Sampling By Mr. Wattana Khotla)

GPS = Sampling at UTM 47P 731136E 1406237N

Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

Nunnaphat Bakhuntod

(Miss Nunnaphat Bakhuntod)

02/06/2022

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

COPY



Request No. ATR6505016

Report No. 6505-0216

## 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 : 30/04/2022 SAMPLE NO. : A65050216  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 08:50-09:40  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218432 REPORTED DATE : 02/06/2022

PARAMETER**	TEST METHOD	RESULT	STD <sup>/1</sup>	UNIT
Propylene Oxide	NIOSH 1612/GC-FID	0.73	240	mg/m <sup>3</sup>
		0.31	100	ppm

## REMARK:

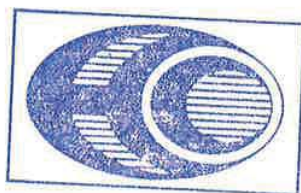
<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.

\*\* 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731136E 1406237N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0217

## 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 : 30/04/2022 SAMPLE NO. : A65050217  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:15-10:15  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 06/05/2022-27/05/2022  
 Serial No. 218406 REPORTED DATE : 02/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	3.48	ppm

**REMARK:**

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd.(Mr. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY



Request No. ATR6505016

Report No. 6505-0218

## 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 : 30/04/2022 SAMPLE NO. : A65050218  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:18-10:18  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 06/05/2022-27/05/2022  
 Serial No. 218403 REPORTED DATE : 02/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	1.89	ppm

## REMARK:

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd.(Mr. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By... *Thongchai Boonsak*

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0219

## 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  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050219  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 08:40-09:40  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 06/05/2022-27/05/2022  
 Serial No. 20040902003 REPORTED DATE : 02/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	3.27	ppm

## REMARK:

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd.(Mr. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0220

## 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 : 30/04/2022 SAMPLE NO. : A65050220  
RECEIVED DATE : 06/05/2022 SAMPLING TIME : 09:20-10:20  
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 06/05/2022-27/05/2022  
Serial No. 218413 REPORTED DATE : 02/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	4.15	ppm

## REMARK:

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

Sampling By Eastern Thai Consulting 1992 Co.,Ltd.(Mr. Wattana Khotla)

Analysed By SECOT Co.,Ltd.

GPS = Sampling at UTM 47P 731342E 1406131N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By



(Mr. Thongchai Boonsak)

02/06/2022

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





Request No. ATR6506024

Report No. 6506-0485

## 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 : 10/06/2022 SAMPLE NO. : A65060485  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:29-09:29  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218432 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>/1</sup> 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.....

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0486

## 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 : 10/06/2022 SAMPLE NO. : A65060486  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:57-09:57  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218406 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1</sup> 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.....

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0487

## 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 : 10/06/2022 SAMPLE NO. : A65060487  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:57-09:57  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218383 REPORTED DATE : 30/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>1</sup>	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m <sup>3</sup>
	Chromatography/NIOSH 2555	< 5.54	1,000	ppm

## REMARK:

<sup>1</sup> 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 Klinsopon)

30/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

ACCREDITED LABORATORY  
ISO/IEC 17025

Request No. ATR6506024

Report No. 6506-0488

## 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 : 10/06/2022 SAMPLE NO. : A65060488  
RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:57-09:47  
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-27/06/2022  
Serial No. 218403 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1/</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>2/</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsoapon)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0489

## 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 : 10/06/2022 SAMPLE NO. : A65060489  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:55-09:55  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218444 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1/</sup> 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.....

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY





Request No. ATR6506024

Report No. 6506-0490

## 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 : 10/06/2022 SAMPLE NO. : A65060490  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:55-09:55  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218391 REPORTED DATE : 30/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>1</sup>	UNIT
Acetone	Sorbent Adsorption, Gas Chromatography/NIOSH 2555	< 13.17	2,400	mg/m <sup>3</sup>
		< 5.54	1,000	ppm

## REMARK:

<sup>1</sup> 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 Klinsopon)

30/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0491

## 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 : 10/06/2022 SAMPLE NO. : A65060491  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:55-09:45  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-27/06/2022  
 Serial No. 218405 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsonon)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0492

## 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 : 10/06/2022 SAMPLE NO. : A65060492  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:48-09:48  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 218445 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1</sup> 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.....

(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0493

## 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 : 10/06/2022 SAMPLE NO. : A65060493  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:45-09:45  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.05 L/min TESTED DATE : 13/06/2022-17/06/2022  
 Serial No. 20180903085 REPORTED DATE : 30/06/2022

PARAMETER*	TEST METHOD	RESULT	STD <sup>1</sup>	UNIT
Acetone	Sorbent Adsorption, Gas	< 13.17	2,400	mg/m <sup>3</sup>
	Chromatography/NIOSH 2555	< 5.54	1,000	ppm

## REMARK:

<sup>1</sup> 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 Klinsoon)

30/06/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



(Miss Nunnaphat Bakhuntod)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0494

## 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 : 10/06/2022 SAMPLE NO. : A65060494  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:45-09:35  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.10 L/min TESTED DATE : 13/06/2022-27/06/2022  
 Serial No. 218385 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsohon)

30/06/2022

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





Request No. ATR6506024

Report No. 6506-0495

## 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 : 10/06/2022 SAMPLE NO. : A65060495  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:28-09:28  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 13/06/2022-27/06/2022  
 Serial No. 20040902003 REPORTED DATE : 30/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	2.27	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 Klinsonpon)

30/06/2022

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

COPY

ACCREDITED LABORATORY  
ISO/IEC 17025

Request No. ATR6506024

Report No. 6506-0496

## 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 : 10/06/2022 SAMPLE NO. : A65060496  
RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:36-09:36  
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 13/06/2022-27/06/2022  
Serial No. 20100401023 REPORTED DATE : 30/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	6.33	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 Klinsopton)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0497

## 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 : 10/06/2022 SAMPLE NO. : A65060497  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 09:02-10:02  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 13/06/2022-27/06/2022  
 Serial No. 20100401020 REPORTED DATE : 30/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	3.03	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 Klinsoyon)

30/06/2022

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

COPY



Request No. ATR6506024

Report No. 6506-0498

## 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 : 10/06/2022 SAMPLE NO. : A65060498  
RECEIVED DATE : 13/06/2022 SAMPLING TIME : 08:30-09:30  
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.20 L/min TESTED DATE : 13/06/2022-27/06/2022  
Serial No. 20150302004 REPORTED DATE : 30/06/2022

PARAMETER**	TEST METHOD	RESULT	UNIT
Total Volatile Organic Compounds (TVOCs)	GC - FID	2.79	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 อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By.....

(Miss Thanatporn Klinsohon)

30/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0225

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณจิตติกร เทิงสูงเนิน)  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050225  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218444 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals,<sup>2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY



Request No. ATR6505016

Report No. 6505-0223

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณนวภาคย์ แสงสุรินทร์)  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050223  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218388 REPORTED DATE : 02/06/2022

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

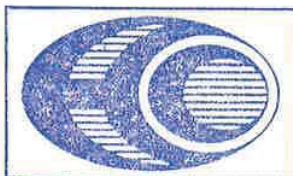
## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0222

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณสรายุทธ์ จีลังคะ)  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050222  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218383 REPORTED DATE : 02/06/2022

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

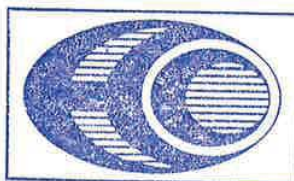
## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0224

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณภาพเวช ียอดัด)  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050224  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218412 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6505016

Report No. 6505-0221

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณธีระเดช แสงเดช)  
 SAMPLING DATE : 30/04/2022 SAMPLE NO. : A65050221  
 RECEIVED DATE : 06/05/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 06/05/2022-24/05/2022  
 Serial No. 218402 REPORTED DATE : 02/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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. Wattana Khotla)

Analysed By SECOT Co.,Ltd.



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By Thongchai Boonsak

(Mr. Thongchai Boonsak)

02/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0499

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณพิชัย ศรีชัย)  
 SAMPLING DATE : 10/06/2022 SAMPLE NO. : A65060499  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 13/06/2022-28/06/2022  
 Serial No. 218413 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsoapon)

30/06/2022

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

COPY



Request No. ATR6506024

Report No. 6506-0500

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณสมบัติ คำภาพงษ์)  
 SAMPLING DATE : 10/06/2022 SAMPLE NO. : A65060500  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 13/06/2022-28/06/2022  
 Serial No. 218385 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0501

## 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 : 10/06/2022 SAMPLE NO. : A65060501  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 13/06/2022-28/06/2022  
 Serial No. 218408 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsohon)

30/06/2022

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



Request No. ATR6506024

Report No. 6506-0502

## TEST REPORT

CUSTOMER : GC Oxirane Co.,Ltd.  
 ADDRESS : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE NAME : พนักงานที่ปฏิบัติงานในพื้นที่เสี่ยงในกระบวนการผลิต (คุณจตุรงค์ แสงกระจ่าง)  
 SAMPLING DATE : 10/06/2022 SAMPLE NO. : A65060502  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 13/06/2022-28/06/2022  
 Serial No. 218402 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsohon)

30/06/2022

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

COPY

Request No. ATR6506024

Report No. 6506-0503

## 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 : 10/06/2022 SAMPLE NO. : A65060503  
RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
SAMPLING INSTRUMENT : Personal Pump Flow rate 0.01 L/min TESTED DATE : 13/06/2022-28/06/2022  
Serial No. 218411 REPORTED DATE : 30/06/2022

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

## REMARK:

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E.2560 (2017), Concentration Limits of Hazardous Chemicals.<sup>/2</sup> ND = Non detectable : When detection limit of Propylene Oxide is less than 0.10 mg/m<sup>3</sup> 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 Klinsoon)

30/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY  
THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
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 : Air Compressors  
PARAMETER\* :  $L_{eq}$  1 hr.,  $L_{eq}$  12 hr. &  $L_{max}$   
DETERMINATION METHOD : In-house Method : A-DM-001  
Based on ISO 11202:2010  
INSTRUMENT : Integrated Sound Level Meter ;  
S/N 00209079 : Type 2  
SAMPLE NO. : 02169  
MEASURING DATE : 18/02/2022  
RECEIVED DATE : 18/02/2022  
REPORTED DATE : 21/02/2022

MEASURING TIME	RESULT		UNIT
	$L_{eq}$ 1 hr.	$L_{max}$	
09:00-10:00	83.6	88.5	dB(A)
10:00-11:00	84.1	85.8	dB(A)
11:00-12:00	84.3	86.5	dB(A)
12:00-13:00	84.4	87.0	dB(A)
13:00-14:00	84.8	87.2	dB(A)
14:00-15:00	84.7	87.1	dB(A)
15:00-16:00	84.7	87.4	dB(A)
16:00-17:00	84.7	86.8	dB(A)
17:00-18:00	84.8	86.8	dB(A)
18:00-19:00	85.2	87.2	dB(A)
19:00-20:00	85.4	87.6	dB(A)
20:00-21:00	85.9	87.6	dB(A)
$L_{eq}$ 12 hr.	84.8	—	dB(A)
Standard	87 <sup>1)</sup>	140 <sup>1)</sup> , 115 <sup>2)</sup>	dB(A)


**REMARK :** <sup>1)</sup> Notification of The Ministry of Industry B.E. 2546 (2003)

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

\* Ms. Thanatporn Klinsoon is Section Head / Mrs. Wanpen Lhaochindawat is Technical Management  
(Measurement By Mr. Wattana Khotla)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By   
(MRS. WANPEN LHAOCHINDAWAT)

21/02/2022

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

**COPY**



**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. &  $L_{max}$   
DETERMINATION METHOD : In-house Method : A-DM-001  
Based on ISO 11202:2010  
INSTRUMENT : Integrated Sound Level Meter ;  
S/N 00310455 : Type 2  
SAMPLE NO. : 02170  
MEASURING DATE : 18/02/2022  
RECEIVED DATE : 18/02/2022  
REPORTED DATE : 21/02/2022

MEASURING TIME	RESULT		UNIT
	$L_{eq}$ 1 hr.	$L_{max}$	
09:00-10:00	84.5	85.0	dB(A)
10:00-11:00	84.1	85.8	dB(A)
11:00-12:00	84.3	86.5	dB(A)
12:00-13:00	84.4	87.0	dB(A)
13:00-14:00	84.3	84.9	dB(A)
14:00-15:00	84.7	87.4	dB(A)
15:00-16:00	84.7	86.8	dB(A)
16:00-17:00	84.3	85.0	dB(A)
17:00-18:00	84.4	84.9	dB(A)
18:00-19:00	84.3	85.0	dB(A)
19:00-20:00	84.5	84.9	dB(A)
20:00-21:00	84.4	84.7	dB(A)
$L_{eq}$ 12 hr.	84.4	-	dB(A)
Standard	$87^{/1}$	$140^{/1}, 115^{/2}$	dB(A)

**REMARK :** <sup>/1</sup> Notification of The Ministry of Industry B.E. 2546 (2003)

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

\* Ms. Thanatporn Klinsopon is Section Head / Mrs. Wanpen Lhaochindawat is Technical Management  
(Measurement By Mr. Wattana Khotla)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

21/02/2022



Request No. LA65-R0232

Report No. R6502-0575

## 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) (จุดตรวจวัด แสงกระจ่าย ID 26008173)  
 MEASURING DATE : 18/02/2022 SAMPLE NO. : 02164  
 RECEIVED DATE : 18/02/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXQ070006 REPORTED DATE : 21/02/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	82.8	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	114.5	115 <sup>/3</sup>	dB(A)
12 Hour dose	90.34	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	84.6	85 <sup>/1</sup>	dB(A)

**REMARK :**

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mr. Wattana Khotla)



Approved By

(MRS. WANPEN LHAOCHINDAWAT)

21/02/2022

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด  
 REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY  
 THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
 WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY

Request No. LA65-R0232

Report No. R6502-0579

## 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) (ศูนย์วิเคราะห์ แสงเคช ID 26008020)

MEASURING DATE : 18/02/2022 SAMPLE NO. : 02168

RECEIVED DATE : 18/02/2022 SAMPLING TIME : 07:00-19:00

SAMPLING INSTRUMENT : Noise dosimeter : S/N NX1.060045 REPORTED DATE : 21/02/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	76.2	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	112.5	115 <sup>/3</sup>	dB(A)
12 Hour dose	19.97	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	78.0	85 <sup>/1</sup>	dB(A)

## REMARK :

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- <sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- <sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)
- <sup>#</sup> 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 Mr. Wattana Khotla)



Approved By

(MRS. WANPEN LHAOCHINDAWAT)

21/02/2022

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY

Request No. LA65-R0232

Report No. R6502-0577

## 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) (คุณสมบัติถัก คำภาพงษ์ ID 26008172)  
 MEASURING DATE : 18/02/2022 SAMPLE NO. : 02166  
 RECEIVED DATE : 18/02/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N 070204292 REPORTED DATE : 21/02/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	78.1	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	113.5	115 <sup>/3</sup>	dB(A)
12 Hour dose	30.77	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	79.9	85 <sup>/1</sup>	dB(A)

**REMARK :**

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mr. Wattana Khotla)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

21/02/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY



Request No. LA65-R0238

Report No. R6502-0747

## 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 นุ่มนัม ID 26008019)  
 MEASURING DATE : 21/02/2022 SAMPLE NO. : 02343  
 RECEIVED DATE : 21/02/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060045 REPORTED DATE : 23/02/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	76.7	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	112.7	115 <sup>/3</sup>	dB(A)
12 Hour dose	22.02	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	78.4	85 <sup>/1</sup>	dB(A)

## REMARK :

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mr. Wattana Khotla)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
 WITHOUT THE WRITTEN APPROVAL LABORATORY

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

23/02/2022

COPY



Request No. LA65-R0238

Report No. R6502-0746

## 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 : 21/02/2022 SAMPLE NO. : 02342  
 RECEIVED DATE : 21/02/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXQ070006 REPORTED DATE : 23/02/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	81.4	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	110.2	115 <sup>/3</sup>	dB(A)
12 Hour dose	66.12	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	83.2	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mr. Wattana Khotla)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

23/02/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY



Request No. LA65-R0248

Report No. R6502-0866

## TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.  
 ADDRESS : Noen Phra Sub-district, Mucang Rayong District, Rayong, 21150  
 SAMPLE SOURCE : GCO Plant  
 SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift C (Morning Shift) (คุณวรวิทย์ ตั้งศิริเจริญรัตน์ ID 26008017)  
 MEASURING DATE : 24/02/2022 SAMPLE NO. : 02462  
 RECEIVED DATE : 25/02/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060044 REPORTED DATE : 01/03/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	73.6	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	113.2	115 <sup>/3</sup>	dB(A)
12 Hour dose	10.98	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	75.4	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mr. Wattana Khotla)

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด  
REPORTED TEST REFER TO SUBMITTED SAMPLES ONLYTHIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL LABORATORY

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

01/03/2022

COPY

Request No. LA65-R0639

Report No. R6506-1460

## 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) (คุณนวภาคย์ แสงสุรินทร์ ID 26008183)  
 MEASURING DATE : 07/06/2022 SAMPLE NO. : 11715  
 RECEIVED DATE : 08/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060048 REPORTED DATE : 13/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	78.0	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	111.3	115 <sup>/3</sup>	dB(A)
12 Hour dose	30.14	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	79.8	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)

บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด  
REPORTED TEST REFER TO SUBMITTED SAMPLES ONLYTHIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL LABORATORY

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

13/06/2022

COPY

Request No. LA65-R0639

Report No. R6506-1459

## 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) (คุณสมบัติวัสดุ ID 26008174)  
 MEASURING DATE : 07/06/2022 SAMPLE NO. : 11714  
 RECEIVED DATE : 08/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060044 REPORTED DATE : 13/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	72.5	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	112.6	115 <sup>/3</sup>	dB(A)
12 Hour dose	8.51	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	74.3	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

13/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY

Request No. LA65-R0638

Report No. R6506-1458

## 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 : 08/06/2022 SAMPLE NO. : 11713  
 RECEIVED DATE : 08/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060044 REPORTED DATE : 13/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	78.0	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	104.3	115 <sup>/3</sup>	dB(A)
12 Hour dose	29.72	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	79.7	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

13/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY



Request No. LA65-R0639

Report No. R6506-1464

## TEST REPORT

CUSTOMER : GC Oxirane Co., Ltd.  
ADDRESS : Nocrn Phra Sub-district, Mueang Rayong District, Rayong, 21150  
SAMPLE SOURCE : GCO Plant  
SAMPLE POINT : บริเวณพื้นที่กระบวนการผลิต Shift A (Morning Shift) (จุดกัมพล แก้วกัลยา ID 26008181)  
MEASURING DATE : 08/06/2022 SAMPLE NO. : 11719  
RECEIVED DATE : 08/06/2022 SAMPLING TIME : 07:00-19:00  
SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060045 REPORTED DATE : 13/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	82.8	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	112.8	115 <sup>/3</sup>	dB(A)
12 Hour dose	90.10	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	84.5	85 <sup>/1</sup>	dB(A)

**REMARK :**

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

<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998

<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)

<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

13/06/2022

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

COPY

Request No. LA65-R0658

Report No. R6506-1872

## 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) (จุดตรวจวัดโกวิท สิงห์โตทอง ID 26008184)  
 MEASURING DATE : 13/06/2022 SAMPLE NO. : 12146  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060048 REPORTED DATE : 21/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	76.7	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	113.0	115 <sup>/3</sup>	dB(A)
12 Hour dose	22.13	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	78.4	85 <sup>/1</sup>	dB(A)

**REMARK :**

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)
- <sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998
- <sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)
- <sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

21/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY



Request No. LA65-R0658

Report No. R6506-1871

## 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) (คุณพงษ์นรินทร์ สีตานา ID 26008175)  
 MEASURING DATE : 13/06/2022 SAMPLE NO. : 12145  
 RECEIVED DATE : 13/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060044 REPORTED DATE : 21/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	75.9	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	113.6	115 <sup>/3</sup>	dB(A)
12 Hour dose	18.44	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	77.7	85 <sup>/1</sup>	dB(A)

## REMARK :

- <sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

(MRS. WANPEN LHAOCHINDAWAT)

21/06/2022

REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY

THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL

WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY

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

Request No. LA65-R0632

Report No. R6506-1046

## 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) (คุณชุกรี ประเสริฐดำ ID 26008171)  
 MEASURING DATE : 02/06/2022 SAMPLE NO. : 11301  
 RECEIVED DATE : 02/06/2022 SAMPLING TIME : 07:00-19:00  
 SAMPLING INSTRUMENT : Noise dosimeter : S/N NXL060048 REPORTED DATE : 09/06/2022

PARAMETER*	RESULT	STANDARD	UNIT
Time weighted average level (12-hr TWA) <sup>#</sup>	72.6	83 <sup>/1</sup>	dB(A)
L <sub>max</sub> 12 hr	112.3	115 <sup>/3</sup>	dB(A)
12 Hour dose	8.69	100 <sup>/2</sup>	%
Time weighted average level (8-hr TWA) <sup>#</sup>	74.4	85 <sup>/1</sup>	dB(A)

**REMARK :**

<sup>/1</sup> Notification of The Department of Labour Protection and Welfare B.E. 2561 (2018)  
<sup>/2</sup> Standard of National Institute for Occupational Safety and Health, Occupational Noise Exposure Revised Criteria 1998  
<sup>/3</sup> Regulation of The Ministry of Labour B.E. 2559 (2016)  
<sup>#</sup> 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 Mrs. Wanpen Lhaochindawat)



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By

(MRS. WANPEN LHAOCHINDAWAT)

09/06/2022

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

COPY

## Test Report

Request No : W6501028

Report No : 6502-0021

Customer : GC Oxirane Co.,Ltd.

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

Sampling Source : GCO Plant

Sample No : W 65010101

Sample Name : Final Check Basin

Sampling Date : 05/01/2022

Sampling By : ETC

Sampling Time : 11:13 AM

Sampling Method : Grab

Received Date : 06/01/2022

Tested Date : 06/01/2022 - 14/01/2022

Reported Date : 01/02/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode : APHA 2017 (5210B)	25.5	≤500
Chemical Oxygen Demand *	mg/l	Closed Reflux, Titrimetric	98	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method : APHA 2017 (5520B)	< 3.0	≤10
pH (on site) *		Electrometric	8.2	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric	0.096	≤1
Temperature *	°C	Laboratory and Field	29	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C : APHA 2017 (2540C)	328	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C : APHA 2017 (2540D)	13	≤200

Physical Apperance : 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,

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-ก-8334)\*

Examined By :

(Miss Apiradee Chuen-arom)  
(จ-003-ก-4377)  
01/02/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)  
(จ-003-ก-2205)  
01/02/2022

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

**COPY**



## Test Report

Request No : W6502086

Report No : 6503-0182

Customer : GC Oxirane Co.,Ltd.\*

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

Sampling Source : GCO Plant\*

Sample No : W 65020334

Sample Name : Final Check Basin\*

Sampling Date : 02/02/2022\*

Sampling By : ETC\*

Sampling Time : 2:20 PM\*

Sampling Method : Grab\*

Received Date : 03/02/2022

Tested Date : 03/02/2022 - 10/02/2022

Reported Date : 01/03/2022

Parameter	Unit	Method	Result	Standard <sup>1/</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	62.2	≤500
Chemical Oxygen Demand *	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	174	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.4	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.033	≤1
Temperature *	°C	Laboratory and Field Method	31	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	358	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	14	≤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 Miss Janthanee Saiphan (จ-003-ก-7281)\*

Examined By : .....

(Miss Apiradee Chuen-arom)

(จ-003-ก-4377)

01/03/2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)

(จ-003-ก-2205)

01/03/2022

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

**COPY**

## Test Report

Request No : W6503074

Report No : 6503-0914

Customer : GC Oxirane Co.,Ltd.\*

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

Sampling Source : GCO Plant\*

Sample No : W 65030344

Sample Name : Final Check Basin\*

Sampling Date : 02/03/2022\*

Sampling By : ETC\*

Sampling Time : 10:50 AM\*

Sampling Method : Grab\*

Received Date : 03/03/2022

Tested Date : 03/03/2022 - 09/03/2022

Reported Date : 11/03/2022

Parameter	Unit	Method	Result	Standard/ <sup>1</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	5.2	≤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	7.4	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤1
Temperature *	°C	Laboratory and Field Method	29	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	444	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	6	≤200

Physical Apperance : 1. Sample : yellow, lightly SS

2. Container : Normal [ PE 0.5 L<sup>+</sup>, 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. Supharek Phatklang (1-003-0-5637)\*

Examined By :

(Miss Apiradee Chuen-arom)  
(1-003-0-4377)  
11/03/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)  
(1-003-0-2205)  
11/03/2022

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



ISO 9001 / ISO 14001

## 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



NSC-TISI-TIS 17025  
TESTING 0031



TESTING  
No.0159

### Test Report

Request No : W6504181

Report No : 6504-1756

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65040759

Sample Name : Final Check Basin\*\*

Sampling Date : 06/04/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 11:20 AM\*\*

Sampling Method : Grab\*\*

Received Date : 07/04/2022

Tested Date : 07/04/2022 - 18/04/2022

Reported Date : 27/04/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	25.4	≤500
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	8.8	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.123	≤1
Temperature *	°C	Laboratory and Field Method	28	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	536	≤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 (จ-003-ก-7279)\*

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

Examined By : .....

(Miss Apiradee Chuen-arom)

(จ-003-ก-4377)

27/04/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)

(จ-003-ก-2205)

27/04/2022

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

COPY

## Test Report

Request No : W6505069

Report No : 6505-0833

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65050275

Sample Name : Final Check Basin\*\*

Sampling Date : 04/05/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 1:15 PM\*\*

Sampling Method : Grab\*\*

Received Date : 05/05/2022

Tested Date : 05/05/2022 - 11/05/2022

Reported Date : 16/05/2022

Parameter	Unit	Method	Result	Standard/1
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	138	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	300	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.3	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.333	≤1
Temperature *	°C	Laboratory and Field Method	32	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	630	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	14	≤200

Physical Appearance : 1. Sample : 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 Miss Pornpinan Viriyakusolkul (จ-003-๑-8334)\*

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

Examined By :

(Miss Apiradee Chuen-arom)  
(จ-003-๑-4377)  
16/05/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By :

(Mr. Kawee Suthasub)  
(จ-003-๑-2205)  
16/05/2022

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

**COPY**

## Test Report

Request No : W6506433

Report No : 6507-0114

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65061575

Sample Name : Final Check Basin\*\*

Sampling Date : 16/06/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 2:00 PM\*\*

Sampling Method : Grab\*\*

Received Date : 17/06/2022

Tested Date : 17/06/2022 - 29/06/2022

Reported Date : 02/07/2022

Parameter	Unit	Method	Result	Standard/ <sup>1</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode Method (SM:5210B)	42.0	≤500
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	213	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.1	5.5 - 9
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	0.238	≤1
Temperature *	°C	Laboratory and Field Method	31	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	740	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	19	≤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 TISIL, # = 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 (จ-003-ค-7279)\*

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

Examined By : .....

(Miss Apiradee Chuen-arom)  
(จ-003-ค-4377)  
02/07/2022



บริษัท อีสเทิร์นไทยคอนซัลติค 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)  
(จ-003-ค-2205)  
02/07/2022

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

**COPY**



## Test Report

Request No : W6501028

Report No : 6502-0023

Customer : GC Oxirane Co.,Ltd.

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

Sampling Source : GCO Plant

Sample No : W 65010103

Sample Name : Cooling Water Blowdown

Sampling Date : 05/01/2022

Sampling By : ETC

Sampling Time : 11:08 AM

Sampling Method : Grab

Received Date : 06/01/2022

Tested Date : 06/01/2022 - 11/01/2022

Reported Date : 01/02/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
Chemical Oxygen Demand *	mg/l	Closed Reflux, Titrimetric	48	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method : APHA 2017 (5520B)	< 3.0	≤10
pH (on site) *		Electrometric	7.5	5.5 - 9
Temperature *	°C	Laboratory and Field	34	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C : APHA 2017 (2540C)	872	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C : APHA 2017 (2540D)	< 5	≤200

Physical Apperance : 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,

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-ท-8334)\*

Examined By : .....

(Miss Apiradee Chuen-arom)  
(จ-003-ท-4377)  
01/02/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)  
(จ-003-ท-2205)  
01/02/2022

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

## Test Report

Request No : W6502086

Report No : 6503-0184

Customer : GC Oxirane Co.,Ltd.\*

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

Sampling Source : GCO Plant\*

Sample No : W 65020336

Sample Name : Cooling Water Blowdown\*

Sampling Date : 02/02/2022\*

Sampling By : ETC\*

Sampling Time : 2:10 PM\*

Sampling Method : Grab\*

Received Date : 03/02/2022

Tested Date : 03/02/2022 - 09/02/2022

Reported Date : 01/03/2022

Parameter	Unit	Method	Result	Standard <sup>/1</sup>
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	7.7	5.5 - 9
Temperature *	°C	Laboratory and Field Method	36	≤ 45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	382	≤ 3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	9	≤ 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 Miss Janthanee Saiphan (จ-003-ก-7281)\*

Examined By : .....

(Miss Apiradee Chuen-arom)  
(จ-003-ก-4377)  
01/03/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)  
(จ-003-ก-2205)  
01/03/2022

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

**DO NOT COPY**

## Test Report

Request No : W6503074

Report No : 6503-0916

Customer : GC Oxirane Co.,Ltd.\*

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

Sampling Source : GCO Plant\*

Sample No : W 65030346

Sample Name : Cooling Water Blowdown\*

Sampling Date : 02/03/2022\*

Sampling By : ETC\*

Sampling Time : 10:45 AM\*

Sampling Method : Grab\*

Received Date : 03/03/2022

Tested Date : 03/03/2022 - 09/03/2022

Reported Date : 11/03/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
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	7.4	5.5 - 9
Temperature *	°C	Laboratory and Field Method	35	≤ 45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	918	≤ 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. /I Eastern Industrial Estate (Map ta Phut) , Maximum levels for Wastewater Discharging to Central Wastewater Treatment Plant

2. @ = ISO/IEC 17025:2017 Accredited by TISIL, # = 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 / Mrs. Wanpen Lhaochindawat is Technical Management.

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

Examined By : .....

(Miss Apiradee Chuen-arom)  
(จ-003-จ-4377)  
11/03/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mrs. Wanpen Lhaochindawat)  
(จ-003-จ-2183)  
11/03/2022

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

**COPY**



ACCREDITED  
ISO 9001 / ISO 14001

## EASTERN THAI CONSULTING 1992 CO., LTD.

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



NSC-TISI-TIS 17025  
TESTING 0031



TESTING  
No.0159

### Test Report

Request No : W6504181

Report No : 6504-1758

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65040761

Sample Name : Cooling Water Blowdown\*\*

Sampling Date : 06/04/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 11:05 AM\*\*

Sampling Method : Grab\*\*

Received Date : 07/04/2022

Tested Date : 07/04/2022 - 21/04/2022

Reported Date : 27/04/2022

Parameter	Unit	Method	Result	Standard/ <sup>1</sup>
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	8.0	5.5 - 9
Temperature *	°C	Laboratory and Field Method	29	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	996	≤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. Songpon Phiwuan (จ-003-ก-7279)\*

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

Examined By : .....

(Miss Apiradee Chuen-arom)

(จ-003-ก-4377)

27/04/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)

(จ-003-ก-2205)

27/04/2022

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

COPY

## Test Report

Request No : W6505069

Report No : 6505-0834

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65050276

Sample Name : Cooling Water Blowdown\*\*

Sampling Date : 04/05/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 1:10 PM\*\*

Sampling Method : Grab\*\*

Received Date : 05/05/2022

Tested Date : 05/05/2022 - 11/05/2022

Reported Date : 16/05/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
Chemical Oxygen Demand #	mg/l	Closed Reflux, Titrimetric Method (SM:5220C)	109	≤750
Oil and Grease @	mg/l	Partition-Gravimetric Method (SM:5520B)	< 3.0	≤10
pH (on site) *		Electrometric Method	7.1	5.5 - 9
Temperature *	°C	Laboratory and Field Method	35	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	792	≤3000
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	5	≤200

Physical Apperance : 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-ก-8334)\*

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

Examined By : .....

(Miss Apiradee Chuen-arom)  
(จ-003-ก-4377)  
16/05/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)  
(จ-003-ก-2205)  
16/05/2022

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



## Test Report

Request No : W6506433

Report No : 6507-0115

Customer : GC Oxirane Co.,Ltd.\*\*

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

Sampling Source : GCO Plant\*\*

Sample No : W 65061576

Sample Name : Cooling Water Blowdown\*\*

Sampling Date : 16/06/2022\*\*

Sampling By : ETC\*\*

Sampling Time : 2:20 PM\*\*

Sampling Method : Grab\*\*

Received Date : 17/06/2022

Tested Date : 17/06/2022 - 27/06/2022

Reported Date : 02/07/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
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	7.2	5.5 - 9
Temperature *	°C	Laboratory and Field Method	30	≤45
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	868	≤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 Phiwan (๖-003-๓-๗๒๗)\*

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

Examined By : .....

(Miss Apiradee Chuen-arom)

(๖-003-๓-4377)

02/07/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By : .....

(Mr. Kawee Suthasub)

(๖-003-๓-2205)

02/07/2022

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

**COPY**

Request No : W6501028

Report No : 6502-0022

**TEST REPORT**

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65010102  
Sample Name : Salt Solution Package Sampling Date : 05/01/2022  
Sampling By : ETC Sampling Time : 11:18 AM  
Sampling Method : Grab Received Date : 06/01/2022  
Tested Date : 06/01/2022 – 14/01/2022 Reported Date : 01/02/2022

Parameter	Unit	Method	Result	Standard <sup>1./2</sup>
Biochemical Oxygen Demand #	mg/l	5-Day BOD Test, Membrane Electrode : APHA 2017 (5210B)	< 2.0	≤ 20
Chemical Oxygen Demand *	mg/l	Closed Reflux, Titrimetric	< 40	≤ 120
Oil and Grease @	mg/l	Partition-Gravimetric Method : APHA 2017 (5220B)	< 3.0	≤ 5
pH (on site) *		Electrometric	8.3	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric	0.018	≤ 1
Temperature *	°C	Laboratory and Field	30	≤ 40
Total Dissolved Solids #	mg/l	Dried at 180 °C : APHA 2017 (2540C)	520	37,400**
Total Suspended Solids #	mg/l	Dried at 103 - 105 °C : APHA 2017(2540D)	< 5	≤ 50

Physical Apperance : 1. Sample : 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,  
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 (ว-003-ค-8334)\*  
6. \*\* ของแข็งละลายน้ำทั้งหมด (Total Dissolved Solids) กรณีระบายลงแหล่งน้ำที่มีค่าของแข็งละลายน้ำทั้งหมดเกินกว่า 3,000 มิลลิกรัมต่อลิตร ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่จะระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้นไม่เกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมแดง 500 เมตร มีค่า Total Dissolved Solids = 32,400 มิลลิกรัมต่อลิตร)

Examined By 

( Miss Apiradee Chuen-arom )

(ว-003-ค-4377)

01/02/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By 

( Mr. Kawee Suthasub )

( ว-003-ค-2205 )

01/02/2022

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

**COPY**

Request No : W6502086

Report No : 6503-0183


**TEST REPORT**

Customer	: GC Oxirane Co.,Ltd.*	Sample No.	: W 65020335
Address	: Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150*	Sampling Date	: 02/02/2022*
Sampling Source	: GCO Plant*	Sampling Time	: 02:25 PM*
Sample Name	: Salt Solution Package*	Received Date	: 03/02/2022
Sampling By	: ETC*	Reported Date	: 01/03/2022
Sampling Method	: Grab*		
Tested Date	: 03/02/2022 – 10/02/2022		

Parameter	Unit	Method	Result	Standard <sup>1,2</sup>
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	8.3	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤ 1
Temperature *	°C	Laboratory and Field Method	30	≤ 40
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	2,048	38,500**
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	11	≤ 50


Physical Apperance : 1. Sample : 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 บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมผาแดง 500 เมตร มีค่า Total Dissolved Solids = 33,500 มิลลิกรัมต่อลิตร)

Examined By   
( Miss Apiradee Chuen-arom )  
(จ-003-ค-4377)  
01/03/2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By   
( Mr. Kawee Suthasub )  
( จ-003-ค-2205 )  
01/03/2022

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

**COPY**

Request No : W6503074

Report No : 6503-0915


**TEST REPORT**

Customer	: GC Oxirane Co., Ltd *	Sample No.	: W 65030345
Address	: Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150*	Sampling Date	: 02/03/2022*
Sampling Source	: GCO Plant*	Sampling Time	: 11:00 AM*
Sample Name	: Salt Solution Package*	Received Date	: 03/03/2022
Sampling By	: ETC*	Reported Date	: 01/04/2022
Sampling Method	: Grab*		
Tested Date	: 03/03/2022 – 09/03/2022		


Parameter	Unit	Method	Result	Standard <sup>1/,2</sup>
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	32	≤ 40
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	6,380	39,680**
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	< 5	≤ 50

Physical Appearance :  
1. Sample : 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 ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่ระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้นไม่เกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมผาแดง 500 เมตร มีค่า Total Dissolved Solids = 34,680 มิลลิกรัมต่อลิตร)

Examined By   
( Miss Apiradee Chuen-arom )  
(จ-003-ค-4377)  
01/04/2022



Approved By   
( Mr. Kawee Suthasub )  
( จ-003-ค-2205 )  
01/04/2022

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

**COPY**



Request No : W6504181

Report No : 6504-1757

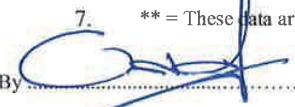
**TEST REPORT**

Customer	: GC Oxirane Co.,Ltd.**	Sample No.	: W 65040760
Address	: Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150**	Sampling Date	: 06/04/2022**
Sampling Source	: GCO Plant**	Sampling Time	: 11:30 AM**
Sample Name	: Salt Solution Package**	Received Date	: 07/04/2022
Sampling By	: ETC**	Reported Date	: 27/04/2022
Sampling Method	: Grab**		
Tested Date	: 07/04/2022 – 18/04/2022		


Parameter	Unit	Method	Result	Standard <sup>1/,2</sup>
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	7.9	5.5-9.0
Phenol *	mg/l	Distillation, Direct Photometric Method (SM:5530B,D)	< 0.005	≤ 1
Temperature *	°C	Laboratory and Field Method	30	≤ 40
Total Dissolved Solids #	mg/l	Dried at 180 C (SM:2540C)	276	41,320***
Total Suspended Solids #	mg/l	Dried at 103-105 C (SM:2540D)	< 5	≤ 50

Physical Appearance : 1. Sample : 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 Phiwuan (ว-003-ค-7279)\*  
6. \*\*\* ของแข็งละลายน้ำทั้งหมด (Total Dissolved Solids) กรณีระบายลงแหล่งน้ำที่มีค่าของแข็งละลายน้ำทั้งหมดเกินกว่า 3,000 มิลลิกรัมต่อลิตร ค่าของแข็งละลายน้ำทั้งหมดในน้ำทิ้งที่จะระบายได้ต้องมีค่าเกินกว่าค่าของแข็งละลายน้ำทั้งหมดที่มีอยู่ในแหล่งน้ำนั้นไม่เกิน 5,000 มิลลิกรัมต่อลิตร (คลองบางเบิด บริเวณระยะห่างจากจุดระบายน้ำทิ้งของนิคมอุตสาหกรรมผาแดง 500 เมตร มีค่า Total Dissolved Solids = 36,320 มิลลิกรัมต่อลิตร)

7.   
Examined By .....  
( Miss Apiradee Chuen-arom )  
(ว-003-ค-4377)  
27/04/2022



  
Approved By .....  
( Mr. Kawee Suthasub )  
( ว-003-ค-2205 )  
27/04/2022

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

**COPY**





Request No. W6506045

Report No. 6506-1975

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65060179  
Sample Name : ทิศเหนือของพื้นที่โครงการ Sampling Date : 01/06/2022  
Sampling By : ETC Sampling Time : 12:00 PM  
Sampling Method : Grab Received Date : 02/06/2022  
Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter	Unit	Method	Result	Standard <sup>1/</sup>
pH (on site)		Electrometric Method	6.9	6.5-9.2 ***

- Physical Apperance : 1. Sample : yellow, lightly SS  
2. Container : Normal [ G 1.0 L [ 4 Bottle ] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
2. \*\*\* ค่า pH จากจุดเก็บตัวอย่างบ่อท้ายน้ำกับจุดเก็บตัวอย่างบ่อเหนือน้ำที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และ ไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐาน คุณภาพน้ำบาดาลที่ใช้บริโภค  
3. Sampling By Mr. Parkpoom Buasawad (ว-003-ค-7280)  
4. GPS = Sampling at 47 P 731228 E 1406508 N

Examined By.....

( Miss Apiradee Chuen-arom )

(ว-003-ค-4377)

29 / 06 / 2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By.....

( Mrs. Wanpen Lhaochindawat )

(ว-003-ค-2183)

29 / 06 / 2022

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

COPY

Request No. W6506045

Report No. 6506-1975

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65060179  
Sample Name : ทิศเหนือของพื้นที่โครงการ Sampling Date : 01/06/2022  
Sampling By : ETC Sampling Time : 12:00 PM  
Sampling Method : Grab Received Date : 02/06/2022  
Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter ***	Unit	Method	Result	Standard <sup>1/</sup>
Acetone	mg/l	APHA 6200 B	ND	≤ 230
Ethylbenzene	mg/l	APHA 6200 B	ND	≤ 2.0
Total Petroleum Hydrocarbons				
- TPH (C <sub>5</sub> -C <sub>8</sub> )	mg/l	5030 C /8260 D	ND	≤ 1.4
- Pentane				
- Benzene				
- Toluene				
- m,p-Xylene				
- o-Xylene				
- Ethylbenzene				
- TPH (C <sub>9</sub> -C <sub>16</sub> )	mg/l	3510 C/8015 D	ND	≤ 1.7
- n-Nonane				
- n-Decane				
- n-Dodecane				
- n-Tetradecane				
- n-Hexadecane				

- Physical Apperance : 1. Sample : yellow, lightly SS  
2. Container : Normal [ G 1.0 L [ 4 Bottle ] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (๖-003-๓-7280)  
3. \*\*\* Tested by SECOT Co.,Ltd. (๖-239)  
4. MDL = Method Detection Limit [ MDL of Acetone = < 0.001 mg/l, Ethylbenzene = < 0.0002 mg/l,  
TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>9</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]  
5. ND = non-detectable. Sampling at 47 P 731228 E 1406508 N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By



( Miss Apiradee Chuen-arom )

29/06/2022

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

COPY

Request No. W6506045

Report No. 6506-1975

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
 Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 Sampling Source : GCO Plant Sample No. : W 65060179  
 Sample Name : ทิศเหนือของพื้นที่โครงการ Sampling Date : 01/06/2022  
 Sampling By : ETC Sampling Time : 12:00 PM  
 Sampling Method : Grab Received Date : 02/06/2022  
 Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter ***	Unit	Method	Result	Standard <sup>1)</sup>
Total Petroleum Hydrocarbons				
- TPH (C <sub>&gt;16</sub> -C <sub>35</sub> )	mg/l	3510 C/8015 D	ND	≤ 0.1
- n-Octadecane				
- n-Eicosane				
- n-Docosane				
- n-Tetracosane				
- n-Hexacosane				
- n-Octacosane				
- n-Triacontane				
- n-Dotriacontane				
- n-Tetratriacontane				
- Pentatriacontane				

Physical Apperance : 1. Sample : yellow, lightly SS  
 2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle] ]  
 Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
 2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (ว-003-ค-7280)  
 3. \*\*\* Tested by SECOT Co.,Ltd. (ว-239)  
 4. MDL = Method Detection Limit [ MDL of Acetone = < 0.001 mg/l, Ethylbenzene = < 0.0002 mg/l,  
 TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>>8</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]  
 5. ND = non-detectabel / GPS = Sampling at 47 P 731228 E 1406508 N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By



( Miss Apiradee Chuen-arom )

29/06/2022

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

COPY

Request No. W6506045

Report No. 6506-1977


## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65060181  
Sample Name : ทิศตะวันตกเฉียงใต้ของพื้นที่โครงการ Sampling Date : 01/06/2022  
Sampling By : ETC Sampling Time : 1:30 PM  
Sampling Method : Grab Received Date : 02/06/2022  
Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter	Unit	Method	Result	Standard <sup>1/</sup>
pH (on site)		Electrometric Method	6.8	6.5-9.2 ***

- Physical Apperance : 1. Sample : yellow, lightly SS  
2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle ] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
2. \*\*\* ค่า pH จากจุดเก็บตัวอย่างบ่อท้ายน้ำกับจุดเก็บตัวอย่างบ่อน้ำที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับและไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐาน คุณภาพน้ำบาดาลที่ใช้บริโภค  
3. Sampling By Mr. Parkpoom Buasawad (ว-003-ค-7280)  
4. GPS = Sampling at 47 P 730877 E 1406047 N

Examined By



( Miss Apiradee Chuen-arom )

(ว-003-ค-4377)

29 / 06 / 2022



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Approved By



( Mrs. Wanpen Lhaochindawat )

(ว-003-ค-2183)

29 / 06 / 2022

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

COPY



Request No. W6506045

Report No. 6506-1977

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65060181  
Sample Name : ทิศตะวันตกเฉียงใต้ของพื้นที่โครงการ Sampling Date : 01/06/2022  
Sampling By : ETC Sampling Time : 1:30 PM  
Sampling Method : Grab Received Date : 02/06/2022  
Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter ***	Unit	Method	Result	Standard <sup>1/</sup>
Acetone	mg/l	APHA 6200 B	ND	≤ 230
Ethylbenzene	mg/l	APHA 6200 B	ND	≤ 2.0
Total Petroleum Hydrocarbons				
- TPH (C <sub>5</sub> -C <sub>8</sub> )	mg/l	5030 C/8260 D	ND	≤ 1.4
- Pentane				
- Benzene				
- Toluene				
- m,p-Xylene				
- o-Xylene				
- Ethylbenzene				
- TPH (C <sub>8</sub> -C <sub>16</sub> )	mg/l	3510 C/8015 D	ND	≤ 1.7
- n-Nonane				
- n-Decane				
- n-Dodecane				
- n-Tetradecane				
- n-Hexadecane				

- Physical Apperance : 1. Sample : yellow, lightly SS  
2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle ] ]
- Remark : 1./1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (ว-003-ก-7280)  
3. \*\*\* Tested by SECOT Co.,Ltd. (ว-239)  
4. MDL = Method Detection Limit [ MDL of Acetone = < 0.001 mg/l, Ethylbenzene = < 0.0002 mg/l, TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>8</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]  
5. ND = non-detectabel / GPS = Sampling at 47 P 730877 E 1406047 N



Examined By

( Miss Apiradee Chuen-arom )

29/06/2022

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

COPY



Request No. W6506045

Report No. 6506-1977

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
 Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 Sampling Source : GCO Plant Sample No. : W 65060181  
 Sample Name : ทิศตะวันตกเฉียงใต้ของพื้นที่โครงการ Sampling Date : 01/06/2022  
 Sampling By : ETC Sampling Time : 1:30 PM  
 Sampling Method : Grab Received Date : 02/06/2022  
 Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter ***	Unit	Method	Result	Standard <sup>1/</sup>
Total Petroleum Hydrocarbons				
- TPH (C <sub>&gt;16</sub> -C <sub>35</sub> )	mg/l	3510 C/8015 D	ND	≤ 0.1
- n-Octadecane				
- n-Eicosane				
- n-Docosane				
- n-Tetracosane				
- n-Hexacosane				
- n-Octacosane				
- n-Triacontane				
- n-Dotriacontane				
- n-Tetratriacontane				
- Pentatriacontane				

- Physical Apperance : 1. Sample : yellow, lightly SS  
 2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle ] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
 2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (ว-003-ค-7280)  
 3. \*\*\* Tested by SECOT Co.,Ltd. (ว-239)  
 4. MDL = Method Detection Limit [ MDL of Acetone = < 0.001 mg/l, Ethylbenzene = < 0.0002 mg/l,  
 TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>>8</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]  
 5. ND = non-detectabel / GPS = Sampling at 47 P 730877 E 1406047 N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By


 ( Miss Apiradee Chuen-arom )

29/06/2022

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

COPY

Request No. W6506045

Report No. 6506-1976

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
 Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
 Sampling Source : GCO Plant Sample No. : W 65060180  
 Sample Name : ทิศตะวันออกของพื้นที่โครงการ Sampling Date : 01/06/2022  
 Sampling By : ETC Sampling Time : 2:00 PM  
 Sampling Method : Grab Received Date : 02/06/2022  
 Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter	Unit	Method	Result	Standard <sup>1</sup>
pH (on site)		Electrometric Method	6.5	6.5-9.2 ***

- Physical Apperance : 1. Sample : orange, turbid  
 2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
 2. \*\*\* ค่า pH จากจุดเก็บตัวอย่างบ่อท้ายน้ำกับจุดเก็บตัวอย่างบ่อเหนือที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่อยู่นอกช่วงค่าเกณฑ์อนุโลมสูงสุดของมาตรฐาน คุณภาพน้ำบาดาลที่ใช้บริโภค  
 3. Sampling By Mr. Parkpoom Buasawad (ว-003-ค-7280)  
 4. GPS = Sampling at 47 P 731433 E 1406036 N

Examined By



(Miss Apiradee Chuen-arom)

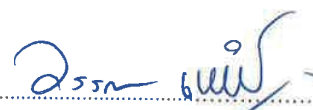
(ว-003-ค-4377)

29 / 06 / 2022



บริษัท อีสเทิร์นไทยคอนซัลติง 1992 จำกัด

Approved By



(Mrs. Wanpen Lhaochindawat)

(ว-003-ค-2183)

29 / 06 / 2022

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

COPY

Request No. W6506045

Report No. 6506-1976

## TEST REPORT

Customer	: GC Oxirane Co.,Ltd.	Sample No.	: W 65060180
Address	: Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150	Sampling Date	: 01/06/2022
Sampling Source	: GCO Plant	Sampling Time	: 2:00 PM
Sample Name	: ทิศตะวันออกของพื้นที่โครงการ	Received Date	: 02/06/2022
Sampling By	: ETC	Reported Date	: 29/06/2022
Sampling Method	: Grab		
Tested Date	: 02/06/2022 ~ 21/06/2022		

Parameter ***	Unit	Method	Result	Standard <sup>1/</sup>
Acetone	mg/l	APHA 6200 B	0.002	≤ 230
Ethylbenzene	mg/l	APHA 6200 B	ND	≤ 2.0
Total Petroleum Hydrocarbons				
- TPH (C <sub>5</sub> -C <sub>8</sub> )	mg/l	5030 C /8260 D	ND	≤ 1.4
- Pentane				
- Benzene				
- Toluene				
- m,p-Xylene				
- o-Xylene				
- Ethylbenzene				
- TPH (C <sub>8</sub> -C <sub>16</sub> )	mg/l	3510 C/8015 D	ND	≤ 1.7
- n-Nonane				
- n-Decane				
- n-Dodecane				
- n-Tetradecane				
- n-Hexadecane				

Physical Apperance : 1. Sample : orange, turbid

2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle] ]

- Remark :
1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)
  2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (๖-003-๓-7280)
  3. \*\*\* Tested by SECOT Co.,Ltd. (๖-239)
  4. MDL = Method Detection Limit [ MDL of Ethylbenzene = < 0.0002 mg/l, TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>>8</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]
  5. ND = non-detectable / CEN Sampling at 47 P 731433 E 1406036 N



Examined By

( Miss Apiradee Chuen-arom )

29/06/2022

บริษัท อีสเทิร์นไทยคอนกรีต จำกัด 1992 จำกัด  
REPORTED TEST REFER TO SUBMITTED SAMPLES ONLY  
THIS REPORT SHALL NOT REPRODUCED EXCEPT IN FULL  
WITHOUT THE WRITTEN APPROVAL LABORATORY

COPY



Request No. W6506045

Report No. 6506-1976

## TEST REPORT

Customer : GC Oxirane Co.,Ltd.  
Address : Noen Phra Sub-district, Mueang Rayong District, Rayong, 21150  
Sampling Source : GCO Plant Sample No. : W 65060180  
Sample Name : ทิศตะวันออกของพื้นที่โครงการ Sampling Date : 01/06/2022  
Sampling By : ETC Sampling Time : 2:00 PM  
Sampling Method : Grab Received Date : 02/06/2022  
Tested Date : 02/06/2022 – 21/06/2022 Reported Date : 29/06/2022

Parameter ***	Unit	Method	Result	Standard <sup>1)</sup>
Total Petroleum Hydrocarbons				
- TPH (C <sub>&gt;16</sub> -C <sub>35</sub> )	mg/l	3510 C/8015 D	ND	≤ 0.1
- n-Octadecane				
- n-Eicosane				
- n-Docosane				
- n-Tetracosane				
- n-Hexacosane				
- n-Octacosane				
- n-Triacontane				
- n-Dotriacontane				
- n-Tetratriacontane				
- Pentatriacontane				

- Physical Appearance : 1. Sample : orange, turbid  
2. Container : Normal [ PE 0.5 L, G 2.5 L [ 2 Bottle ] ]
- Remark : 1. /1 Soil and Groundwater Contamination Standard, Notification of the Ministry of Industry , B.E. 2559 (2016)  
2. Sampling By Eastern Thai Consulting 1992 Co., Ltd., (Mr. Parkpoom Buasawad (ว-003-ค-7280)  
3. \*\*\* Tested by SECOT Co.,Ltd. (ว-239)  
4. MDL = Method Detection Limit [ MDL of Ethylbenzene = < 0.0002 mg/l, TPH (C<sub>5</sub>-C<sub>8</sub>) = < 0.003 mg/l, TPH (C<sub>8</sub>-C<sub>16</sub>) = < 0.025 mg/l, TPH (C<sub>>16</sub>-C<sub>35</sub>) = < 0.050 mg/l ]  
5. ND = non-detectabel / GPS = Sampling at 47 P 731433 E 1406036 N



บริษัท อีสเทิร์นไทยคอนซัลติ้ง 1992 จำกัด

Examined By

( Miss Apiradee Chuen-arom )

29/06/2022

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

COPY



Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL

ต้นฉบับ

1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240

E-mail : admin@tet1995.com

1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

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

Page 4 of 9

## TEST REPORT

Analysis No. : R21-1556

Customer : Technical Division of Thai Environmental Technic Limited

For บริษัท จีซี ออกซิเจน จำกัด

โครงการโรงงานผลิตโพรพิลีนออกไซด์ (PO Plant)

Address : นิคมอุตสาหกรรมดับบลิวเอชเอ ตะวันออก (มาบตาพุด)

อำเภอเมืองระยอง จังหวัดระยอง 21150

Contact : คุณบุศรา คำอยู่ยามาก

Report Date : 09/07/21

Received Date : 28/06/21

Analysis Date : 28/06-12/07/21

Sampling Date : 25/06/21

Sampling By : TET

Type of Sample : Soil

Job No. : S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0050	
				ทิศเหนือ ของพื้นที่โครงการ	
1	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	1,000
2	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	230
3	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	25
	- TPH (C >8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	25
	- TPH (C >16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	8.0

Remarks : ทิศเหนือของพื้นที่โครงการ = 47P 073 1233 UTM 1406501

Method (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual

(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานการวิเคราะห์ดินทางกายภาพ แก๊สโครมาโทกราฟี วันที่บังคับใช้ กันยายน 2553

Standard : Notification of the Ministry of Industry (2016) (B.E. 2559) : Criteria for Contaminated Soil and Groundwater standards.

Ms. Wareerut Prachumdang

Chief of Laboratory

2-236-ก-7201

09/07/21



Mrs. Porntip Pethshee

Laboratory Manager

2-236-ก-6047

09/07/21

PRIVATE LABORATORY REGISTERED NO. 2-236

REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY

DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL

COPY





Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL  
ต้นฉบับ

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

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

Page 5 of 9

## TEST REPORT

**Analysis No. :** R21-1556  
**Customer :** Technical Division of Thai Environmental Technic Limited  
For บริษัท จีซี ออกซีเรน จำกัด  
โครงการ โรงงานผลิตโพรพิลีนออกไซด์ (PO Plant)  
**Address :** นิคมอุตสาหกรรมคืบลิเวเฮอ ตะวันออก (มาบตาพุด)  
อำเภอเมืองระยอง จังหวัดระยอง 21150  
**Contact :** คุณนุศรา คำ อยู่ญาติมาก

**Report Date :** 09/07/21  
**Received Date :** 28/06/21  
**Analysis Date :** 28/06-12/07/21  
**Sampling Date :** 25/06/21  
**Sampling By :** TET  
**Type of Sample :** Soil  
**Job No. :** S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0050	
				ทิศเหนือ ของพื้นที่โครงการ	
1	pH	-	Electrometric Method (SW-846 Method 9045D) <sup>(1)</sup>	6.76	-
2	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	-
3	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	19,350
4	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	-
	- TPH (C >8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-
	- TPH (C >16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-

**Remarks :** ทิศเหนือของพื้นที่โครงการ = 47P 0731233 UTM 1406501  
**Method :** (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual  
(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานการวิเคราะห์ดินทางกายภาพ แก้ไขครั้งที่ 01 วันที่บังคับใช้ กันยายน 2553  
**Standard :** Notification of National Environment Board (2021) (B.E. 2564) ; Soil Quality of Commercial/Agricultural and Other Activities Beneficial Uses.

Ms. Wareerut Prachumdang  
Chief of Laboratory



Mrs. Porntip Pethshee  
Manager Laboratory

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

COPY



Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL  
ต้นฉบับ

1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240

E-mail : admin@tet1995.com

1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

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

Page 8 of 9

## TEST REPORT

Analysis No. : R21-1556

Customer : Technical Division of Thai Environmental Technic Limited

For บริษัท จีซี ออกซีเรน จำกัด

โครงการ โรงงานผลิตโพรพิลีนออกไซด์ (PO Plant)

Address : นิคมอุตสาหกรรมคืบลิ่วเอชเอ ตะวันออก (มาบตาพุด)

อำเภอเมืองระยอง จังหวัดระยอง 21150

Contact : คุณนุศรา คำอยู่ญาติมาก

Report Date : 09/07/21

Received Date : 28/06/21

Analysis Date : 28/06-12/07/21

Sampling Date : 25/06/21

Sampling By : TET

Type of Sample : Soil

Job No. : S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0052	
				ทิศตะวันตกเฉียงใต้ ของพื้นที่โครงการ	
1	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	1,000
2	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	230
3	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	25
	- TPH (C >8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	25
	- TPH (C >16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	8.0

Remarks : ทิศตะวันตกเฉียงใต้ของพื้นที่โครงการ = 47P 0730875 UTM 1406049

Method (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual

(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานกระบวนการวิเคราะห์ดินทางกายภาพ แก้ไขครั้งที่ 01 วันที่บังคับใช้ กันยายน 2553

Standard : Notification of the Ministry of Industry (2016) (B.E. 2559) : Criteria for Contaminated Soil and Groundwater standards,

Ms. Wareerut Prachumdang

Chief of Laboratory

ว-236-ท-7201

09/07/21



Mrs. Pornip Pethshee

Laboratory Manager

ว-236-ท-6047

09/07/21

- PRIVATE LABORATORY REGISTERED NO. ว-236
- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL

COPY



Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL

ต้นฉบับ

1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240

E-mail : admin@tet1995.com

1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

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

Page 9 of 9

## TEST REPORT

Analysis No. : R21-1556

Report Date : 09/07/21

Customer : Technical Division of Thai Environmental Technic Limited

Received Date : 28/06/21

For บริษัท จีซี ออกซีเรน จำกัด

Analysis Date : 28/06-12/07/21

โครงการ โรงงานผลิตโพรพิลีนออกไซด์ (PO Plant)

Sampling Date : 25/06/21

Address : นิคมอุตสาหกรรมดับบลิวเอชเอ ตะวันออก (มาบตาพุด)

Sampling By : TET

อำเภอเมืองระยอง จังหวัดระยอง 21150

Type of Sample : Soil

Contact : คุณนุศรา คำ อยู่ญาคิมาก

Job No. : S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0052	
				ทิศตะวันตกเฉียงใต้ ของพื้นที่โครงการ	
1	pH	-	Electrometric Method (SW-846 Method 9045D) <sup>(1)</sup>	6.93	-
2	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	-
3	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	19,350
4	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	-
	- TPH (C >8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-
	- TPH (C >16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-

Remarks : ทิศตะวันตกเฉียงใต้ของพื้นที่โครงการ = 47P 0730875 UTM 1406049

Method (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual

(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานกระบวนการวิเคราะห์ดินทางกายภาพ แก้ไขครั้งที่ 01 วันที่บังคับใช้ กันยายน 2553

Standard : Notification of National Environment Board (2021) (B.E. 2564) : Soil Quality of Commercial/Agricultural and Other Activities Beneficial Uses.

Ms. Wareerut Prachumdang

Chief of Laboratory

09.07.21



Mrs. Pornpip Pethshee

Manager Laboratory

09.07.21

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

COPY



Thai Environmental Technic Limited  
บริษัท เทคนิคสิ่งแวดล้อมไทย จำกัด

ORIGINAL  
ต้นฉบับ

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

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

Page 6 of 9

### TEST REPORT

**Analysis No. :** R21-1556  
**Customer :** Technical Division of Thai Environmental Technic Limited  
For บริษัท จีซี ออกซีเรน จำกัด  
โครงการโรงงานผลิตโพรพิลีนออกไซด์ (PO Plant)  
**Address :** นิคมอุตสาหกรรมดับบลิวเอชเอ ตะวันออก (มาบตาพุด)  
อำเภอเมืองระยอง จังหวัดระยอง 21150  
**Contact :** คุณบุศรา คำ อยู่ญาดิมาก

**Report Date :** 09/07/21  
**Received Date :** 28/06/21  
**Analysis Date :** 28/06-12/07/21  
**Sampling Date :** 25/06/21  
**Sampling By :** TET  
**Type of Sample :** Soil  
**Job No. :** S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0051	
				ที่ตรวจวิเคราะห์ ของพื้นที่โครงการ	
1	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	1,000
2	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	230
3	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	25
	- TPH (C > 8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	25
	- TPH (C > 16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	8.0

**Remarks :** ที่ตรวจวิเคราะห์ของพื้นที่โครงการ = 47P 0731435 UTM 1406039  
**Method :** (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual  
(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานกระบวนการวิเคราะห์ดินทางกายภาพ แก๊สครั้งที่ 01 วันที่บังคับใช้ กันยายน 2553  
**Standard :** Notification of the Ministry of Industry (2016) (B.E. 2559) : Criteria for Contaminated Soil and Groundwater standards.

Ms. Wareerut Prachumdang  
Chief of Laboratory

๖-๒๓๖-๖-๗๒๐๑  
๐๙/๐๗/๒๑



Mrs. Pomtip Pethshee  
Laboratory Manager

๖-๒๓๖-๖-๖๐๔๗  
๐๙/๐๗/๒๑

- PRIVATE LABORATORY REGISTERED NO. ๖-236
- REPORTED RESULTS REFER TO SUBMITTED SAMPLE(S) ONLY
- DO NOT COPY PARTIAL OF THIS ANALYSIS REPORT WITHOUT OFFICIAL APPROVAL

COPY



Thai Environmental Technic Limited  
บริษัท เทคนิกลิ่งแวดล้อมไทย จำกัด

ORIGINAL  
ต้นฉบับ

1/6 Soi Ramkhamhaeng 145, Khwaeng / Khet Saphansung, Bangkok 10240

E-mail : admin@tet1995.com

1/6 ซอยรามคำแหง 145 แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

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

Page 7 of 9

## TEST REPORT

Analysis No. : R21-1556

Report Date : 09/07/21

Customer : Technical Division of Thai Environmental Technic Limited

Received Date : 28/06/21

For บริษัท จีซี ออกซิเจน จำกัด

Analysis Date : 28/06-12/07/21

โครงการ โรงงานผลิต โพรพิลีนออกไซด์ (PO Plant)

Sampling Date : 25/06/21

Address : นิคมอุตสาหกรรมดับบลิวเอชเอ ตะวันออก (มาบตาพุด)

Sampling By : TET

อำเภอเมืองระยอง จังหวัดระยอง 21150

Type of Sample : Soil

Contact : คุณนุศรา คำอยู่ญาติมาก

Job No. : S640330/June/3

Item	Parameter	Unit	Method	Result	Standard
				2106-SS0051	
				ทิศตะวันออก ของพื้นที่โครงการ	
1	pH	-	Electrometric Method (SW-846 Method 9045D) <sup>(1)</sup>	6.59	-
2	Acetone	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.005	-
3	Ethylbenzene	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	19,350
4	Total Petroleum (TPH)				
	- TPH (C5-C8)	mg/kg	P&T, GC/MS (SW 846 Method 5035A and 8260C) <sup>(1)</sup>	< 0.001	-
	- TPH (C >8-C16)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-
	- TPH (C >16-C35)	mg/kg	LLE, GC/FID (SW 846 Method 3510 C and 8015D) <sup>(2)</sup>	< 0.1	-

Remarks : ทิศตะวันออกของพื้นที่โครงการ = 47P 0731435 UTM 1406039

Method (1) U.S. Environmental Protection Agency TEST METHOD: SW: 846 Manual

(2) กรมพัฒนาที่ดิน คู่มือการปฏิบัติงานการวิเคราะห์ดินทางกายภาพ แก้ไขครั้งที่ 01 วันที่บังคับใช้ กันยายน 2553

Standard : Notification of National Environment Board (2021) (B.E. 2564) ; Soil Quality of Commercial/Agricultural and Other Activities Beneficial Uses.

Ms. Wareerut Prachumdang

Chief of Laboratory  
09/07/21



Mrs. Pornpip Pethshee

Manager Laboratory  
09/07/21

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

COPY