

## ภาคผนวก ค

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ใบรับรองผลการตรวจวิเคราะห์คุณภาพสิ่งแวดล้อม

# ภาคผนวก ค-1

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คุณภาพอากาศจากแหล่งกำเนิด



## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127649**  
Date Received : Dec 09, 2024  
Date Reported : Dec 17, 2024  
Report Number: 3158845-1

Page 1 of 1

**Sample Number** 24127649-1  
**Sampled Date** Dec 09, 2024  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง Reformer Furnace  
**Date Analysis Commenced** Dec 10, 2024  
**Condition of Sample** Extracted into two 2-L collection flasks

### Stack Description

|                     |             |      |                   |        |    |                       |      |        |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure    | 757         | mmHg | Diameter          | 0.55   | m  | Oxygen                | 2.2  | %      |
| Ambient Temperature | 32.1        | °C   | Shape             | Circle |    | Carbon Dioxide        | 10.6 | %      |
| Type of Process     | Combustion  |      | Stack Temperature | 161    | °C | Gas Velocity          | 4.4  | m/s    |
| Type of Fuel        | Natural Gas |      | Moisture          | 8.12   | %  | Flow Rate (Actual O2) | 2366 | Nm3/hr |

| Analyte            | Sampled Time        | Unit | LOD | LOQ (LOR) | Result at 7 %O <sub>2</sub> | Guideline Limit | Method  | Testing Location |
|--------------------|---------------------|------|-----|-----------|-----------------------------|-----------------|---|------------------|
| <b>Air Testing</b> |                     |      |     |           |                             |                 |   |                  |
| Oxides of Nitrogen | 10:00 AM - 10:10 AM | ppm  | -   | 1.06      | 95.2                        | 200             | United States Environmental Protection Agency, EPA Method 7 | Rayong           |

**Guideline :** Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

**Sampling By :** Jittakorn Sriwasa ทะเบียนเลขที่ ว-323-จ-0007

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

**Technical Management**

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ว-323-จ-0029

**Approved by**

*D. Changchon*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127650**  
Date Received : Dec 09, 2024  
Date Reported : Dec 17, 2024  
Report Number: 3158846-1

Page 1 of 1

**Sample Number** 24127650-1  
**Sampled Date** Dec 09, 2024  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง Boiler  
**Date Analysis Commenced** Dec 10, 2024  
**Condition of Sample** Extracted into two 2-L collection flasks

### Stack Description

|                     |             |      |                   |        |    |                       |      |        |
|---------------------|-------------|------|-------------------|--------|----|-----------------------|------|--------|
| Ambient Pressure    | 757         | mmHg | Diameter          | 0.48   | m  | Oxygen                | 6.6  | %      |
| Ambient Temperature | 32.1        | °C   | Shape             | Circle |    | Carbon Dioxide        | 8.2  | %      |
| Type of Process     | Combustion  |      | Stack Temperature | 150    | °C | Gas Velocity          | 5.4  | m/s    |
| Type of Fuel        | Natural Gas |      | Moisture          | 8.51   | %  | Flow Rate (Actual O2) | 2259 | Nm3/hr |

| Analyte            | Sampled Time        | Unit | LOD | LOQ (LOR) | Result at 7 %O <sub>2</sub> | Guideline Limit | Method  | Testing Location |
|--------------------|---------------------|------|-----|-----------|-----------------------------|-----------------|---|------------------|
| <b>Air Testing</b> |                     |      |     |           |                             |                 |   |                  |
| Oxides of Nitrogen | 09:30 AM - 09:40 AM | ppm  | -   | 1.06      | 27.6                        | 200             | United States Environmental Protection Agency, EPA Method 7 | Rayong           |

**Guideline :** Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

**Sampling By :** Jittakorn Sriwasa ทะเบียนเลขที่ ว-323-จ-0007

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Technical Management

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ว-323-จ-0029

Approved by

*D. Changchon*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ว-323-ค-0001

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# ภาคผนวก ค-2

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คุณภาพน้ำ



## Analysis / Test Report

TESTING

No.0042

**Lot ID: 2476698**

Date Received : Jul 23, 2024

Date Reported : Dec 23, 2024

Report Number : 3200406-1

**Client** : Linde HyCO Limited

10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O** : 9103799242

**Project Name** : Environmental Monitoring

**Project Location** :

Page 1 of 1

|                                |  |  |  |  |  |  |  |
|--------------------------------|--|--|--|--|--|--|--|
| <b>Sample Number</b>           | 2476698-1  |  |  |  |  |  |  |
| <b>Sampled Date</b>            | Jul 23, 2024 11:05 AM  |  |  |  |  |  |  |
| <b>Sample Description</b>      | Wastewater   |  |  |  |  |  |  |
| <b>Location</b>                | จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)   |  |  |  |  |  |  |
| <b>Date Analysis Commenced</b> | Jul 23, 2024   |  |  |  |  |  |  |
| <b>Condition of Sample</b>     | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |  |  |  |  |  |  |

| Analyte                                      | Unit     | LOD | LOQ (LOR) | Result | Guideline / Specification | Method   | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| <b>Water Testing</b>                         |          |     |           |        |                           |  |                  |
| BOD (5 days at 20 Degree C)                  | mg/L     | -   | 2.0       | <2.0   | ≤20                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong           |
| COD  | mg/L     | 1.5 | 25        | <25    | ≤120                      | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D                  | Rayong           |
| Oil & Grease                                 | mg/L     | -   | 3         | <3     | ≤5                        | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B                  | Rayong           |
| pH at 25 degree C                            |          | -   | -         | 7.8    | 5.5-9.0                   | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)            | Rayong           |
| Temperature *                                | Degree C | -   | -         | 32.0   | ≤40                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B                  | Rayong           |
| Total Dissolved Solids Dried at 180 degree C | mg/L     | -   | 5         | 424    | ≤3000                     | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C                  | Rayong           |

**Guideline** : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Note** : This Analysis test report is reissued to supersede report No.3045207-1, Date Reported : Jul 30, 2024 due to revise analytical information.

**Sampling By** : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-0051

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

**D. Changchon.**

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O :**

**Project Name :** Environmental Monitoring

**Project Location :**

**TESTING**

**No.0042**

**Lot ID: 2487672**

Date Received : Jul 31, 2024

Date Reported : Aug 05, 2024

Report Number : 3069654-1

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**Sample Number** 2487672-1  
**Sampled Date** Jul 31, 2024 2:15 PM  
**Sample Description** Wastewater  
**Location** จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)  
**Date Analysis Commenced** Aug 01, 2024  
**Condition of Sample** Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

| Analyte  | Unit | LOD | LOQ (LOR) | Result | Guideline / Specification | Method  | Testing Location |
|--|------|-----|-----------|--------|---------------------------|---|------------------|
| <b>Water Testing</b>                             |      |     |           |        |                           |   |                  |
| Total Suspended Solids Dried at 103-105 degree C | mg/L | -   | 5         | 16     | ≤50                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D | Rayong           |

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-9476

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**Technical Management**

*Chontichak*

Chonticha Subongkoch

Scientist (3)

ทะเบียนเลขที่ ว-323-จ-9449

**Approved by**

*D. Changchon*

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 2489968**

Date Received : Aug 19, 2024

Date Reported : Aug 26, 2024

Report Number : 3075295-1

**Client :** Linde HyCO Limited

10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O :** 9103799242

**Project Name :** Environmental Monitoring

**Project Location :**

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|                                |  |
|--------------------------------|--|
| <b>Sample Number</b>           | 2489968-1  |
| <b>Sampled Date</b>            | Aug 19, 2024 10:15 AM  |
| <b>Sample Description</b>      | Wastewater   |
| <b>Location</b>                | จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)   |
| <b>Date Analysis Commenced</b> | Aug 19, 2024   |
| <b>Condition of Sample</b>     | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte  | Unit     | LOD | LOQ (LOR) | Result | Guideline / Specification | Method   | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| <b>Water Testing</b>                             |          |     |           |        |                           |  |                  |
| BOD (5 days at 20 Degree C)                      | mg/L     | -   | 2.0       | <2.0   | ≤20                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G | Rayong           |
| COD  | mg/L     | 1.5 | 25        | <25    | ≤120                      | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D                  | Rayong           |
| Oil & Grease                                     | mg/L     | -   | 3         | <3     | ≤5                        | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B                  | Rayong           |
| pH at 25 degree C                                |          | -   | -         | 7.9    | 5.5-9.0                   | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)            | Rayong           |
| Temperature *                                    | Degree C | -   | -         | 32.0   | ≤40                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B                  | Rayong           |
| Total Dissolved Solids Dried at 180 degree C     | mg/L     | -   | 5         | 636    | ≤3000                     | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C                  | Rayong           |
| Total Suspended Solids Dried at 103-105 degree C | mg/L     | -   | 5         | <5     | ≤50                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D                  | Rayong           |

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-0051

Remark :

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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

**D. Changchon.**

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 24103000**

Date Received : Sep 16, 2024

Date Reported : Sep 23, 2024

Report Number : 3102584-1

**Client :** Linde HyCO Limited

10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O :** 9103799242

**Project Name :** Environmental Monitoring

**Project Location :**

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|                                |  |  |  |  |  |  |  |
|--------------------------------|--|--|--|--|--|--|--|
| <b>Sample Number</b>           | 24103000-1   |  |  |  |  |  |  |
| <b>Sampled Date</b>            | Sep 16, 2024 9:32 AM   |  |  |  |  |  |  |
| <b>Sample Description</b>      | Wastewater   |  |  |  |  |  |  |
| <b>Location</b>                | จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)   |  |  |  |  |  |  |
| <b>Date Analysis Commenced</b> | Sep 16, 2024   |  |  |  |  |  |  |
| <b>Condition of Sample</b>     | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |  |  |  |  |  |  |

| Analyte  | Unit     | LOD | LOQ (LOR) | Result | Guideline / Specification | Method   | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| <b>Water Testing</b>                             |          |     |           |        |                           |  |                  |
| BOD (5 days at 20 Degree C)                      | mg/L     | -   | 2.0       | <2.0   | ≤20                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G | Rayong           |
| COD  | mg/L     | 1.5 | 25        | <25    | ≤120                      | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D                  | Rayong           |
| Oil & Grease                                     | mg/L     | -   | 3         | <3     | ≤5                        | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B                  | Rayong           |
| pH at 25 degree C                                |          | -   | -         | 7.8    | 5.5-9.0                   | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)            | Rayong           |
| Temperature *                                    | Degree C | -   | -         | 29.9   | ≤40                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B                  | Rayong           |
| Total Dissolved Solids Dried at 180 degree C     | mg/L     | -   | 5         | 388    | ≤3000                     | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C                  | Rayong           |
| Total Suspended Solids Dried at 103-105 degree C | mg/L     | -   | 5         | 20     | ≤50                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D                  | Rayong           |

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Wasan Kinunti ทะเบียนเลขที่ ว-323-จ-0019

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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

**D. Changchon.**

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 24113886**

Date Received : Oct 15, 2024

Date Reported : Oct 21, 2024

Report Number : 3126330-1

**Client :** Linde HyCO Limited

10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O :** 9103799242

**Project Name :** Environmental Monitoring

**Project Location :**

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|                                |  |  |  |  |  |  |  |
|--------------------------------|--|--|--|--|--|--|--|
| <b>Sample Number</b>           | 24113886-1   |  |  |  |  |  |  |
| <b>Sampled Date</b>            | Oct 15, 2024 11:11 AM  |  |  |  |  |  |  |
| <b>Sample Description</b>      | Wastewater   |  |  |  |  |  |  |
| <b>Location</b>                | จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)   |  |  |  |  |  |  |
| <b>Date Analysis Commenced</b> | Oct 15, 2024   |  |  |  |  |  |  |
| <b>Condition of Sample</b>     | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |  |  |  |  |  |  |

| Analyte  | Unit     | LOD | LOQ (LOR) | Result | Guideline / Specification | Method   | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| <b>Water Testing</b>                             |          |     |           |        |                           |  |                  |
| BOD (5 days at 20 Degree C)                      | mg/L     | -   | 2.0       | <2.0   | ≤20                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G | Rayong           |
| COD  | mg/L     | 1.5 | 25        | <25    | ≤120                      | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D                  | Rayong           |
| Oil & Grease                                     | mg/L     | -   | 3         | <3     | ≤5                        | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B                  | Rayong           |
| pH at 25 degree C                                |          | -   | -         | 7.9    | 5.5-9.0                   | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)            | Rayong           |
| Temperature *                                    | Degree C | -   | -         | 30.3   | ≤40                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B                  | Rayong           |
| Total Dissolved Solids Dried at 180 degree C     | mg/L     | -   | 5         | 372    | ≤3000                     | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C                  | Rayong           |
| Total Suspended Solids Dried at 103-105 degree C | mg/L     | -   | 5         | 13     | ≤50                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D                  | Rayong           |

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

**Technical Management**

*Chontichak*

Chonticha Subongkoch  
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-0031

**Approved by**

*D. Changchon*

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.  
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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 24136823**

Date Received : Dec 13, 2024

Date Reported : Dec 20, 2024

Report Number : 3181945-1

**Client :** Linde HyCO Limited

10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150

**P/O :** 9103799242

**Project Name :** Environmental Monitoring

**Project Location :**

Page 1 of 1

|                                |  |
|--------------------------------|--|
| <b>Sample Number</b>           | 24136823-1   |
| <b>Sampled Date</b>            | Dec 13, 2024 9:25 AM   |
| <b>Sample Description</b>      | Wastewater   |
| <b>Location</b>                | จุดปล่อยน้ำทิ้งของโครงการบริเวณประตู 2 (Outlet Gate 2)   |
| <b>Date Analysis Commenced</b> | Dec 13, 2024   |
| <b>Condition of Sample</b>     | Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA) |

| Analyte  | Unit     | LOD | LOQ (LOR) | Result | Guideline / Specification | Method   | Testing Location |
|--|----------|-----|-----------|--------|---------------------------|--|------------------|
| <b>Water Testing</b>                             |          |     |           |        |                           |  |                  |
| BOD (5 days at 20 Degree C)                      | mg/L     | -   | 2.0       | <2.0   | ≤20                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G | Rayong           |
| COD  | mg/L     | 1.5 | 25        | 26     | ≤120                      | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D                  | Rayong           |
| Oil & Grease                                     | mg/L     | -   | 3         | <3     | ≤5                        | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B                  | Rayong           |
| pH at 25 degree C                                |          | -   | -         | 7.9    | 5.5-9.0                   | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)            | Rayong           |
| Temperature *                                    | Degree C | -   | -         | 29.0   | ≤40                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B                  | Rayong           |
| Total Dissolved Solids Dried at 180 degree C     | mg/L     | -   | 5         | 396    | ≤3000                     | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C                  | Rayong           |
| Total Suspended Solids Dried at 103-105 degree C | mg/L     | -   | 5         | 28     | ≤50                       | Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D                  | Rayong           |

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

**Sampling By :** Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

**Technical Management**

*Chontichak*

Chonticha Subongkoch  
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-0031

**Approved by**

*D. Changchon*

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.  
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# ภาคผนวก ค-3

---

ระดับเสียงโดยทั่วไป



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197633-1

Page 1 of 1

**Sample Number** 24127651-1  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 09 - Dec 10, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 62.9        | 80.4         | 59.7        |
| 10:00 AM - 11:00 AM | 65.6        | 85.9         | 58.8        |
| 11:00 AM - 12:00 PM | 59.7        | 70.9         | 58.3        |
| 12:00 PM - 01:00 PM | 58.7        | 63.6         | 57.7        |
| 01:00 PM - 02:00 PM | 63.6        | 82.5         | 57.5        |
| 02:00 PM - 03:00 PM | 64.6        | 86.3         | 57.0        |
| 03:00 PM - 04:00 PM | 58.9        | 71.0         | 57.5        |
| 04:00 PM - 05:00 PM | 59.3        | 72.2         | 58.1        |
| 05:00 PM - 06:00 PM | 58.9        | 63.6         | 58.1        |
| 06:00 PM - 07:00 PM | 59.2        | 64.8         | 58.3        |
| 07:00 PM - 08:00 PM | 60.2        | 66.0         | 59.4        |
| 08:00 PM - 09:00 PM | 61.1        | 78.2         | 59.7        |
| 09:00 PM - 10:00 PM | 60.6        | 66.7         | 59.6        |
| 10:00 PM - 11:00 PM | 60.6        | 66.3         | 59.6        |
| 11:00 PM - 12:00 AM | 60.9        | 66.0         | 59.3        |
| 12:00 AM - 01:00 AM | 60.9        | 71.3         | 59.6        |
| 01:00 AM - 02:00 AM | 62.7        | 79.6         | 59.5        |
| 02:00 AM - 03:00 AM | 60.3        | 66.1         | 59.6        |
| 03:00 AM - 04:00 AM | 60.3        | 64.2         | 59.7        |
| 04:00 AM - 05:00 AM | 60.7        | 64.6         | 59.8        |
| 05:00 AM - 06:00 AM | 61.2        | 68.0         | 60.2        |
| 06:00 AM - 07:00 AM | 61.8        | 80.6         | 60.3        |
| 07:00 AM - 08:00 AM | 60.6        | 69.6         | 59.7        |
| 08:00 AM - 09:00 AM | 60.4        | 78.2         | 59.3        |

Leq Average 24 hrs. (dB(A)) 61.4  
Lmax (dB(A)) 86.3  
L90 (dB(A)) 59.4  
Ldn (dB(A)) 67.6

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197634-1

Page 1 of 1

**Sample Number** 24127651-2  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 10 - Dec 11, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 60.7        | 73.8         | 59.0        |
| 10:00 AM - 11:00 AM | 61.7        | 78.7         | 58.9        |
| 11:00 AM - 12:00 PM | 59.1        | 64.6         | 58.2        |
| 12:00 PM - 01:00 PM | 60.0        | 82.9         | 58.3        |
| 01:00 PM - 02:00 PM | 66.1        | 84.7         | 58.4        |
| 02:00 PM - 03:00 PM | 65.5        | 85.5         | 57.3        |
| 03:00 PM - 04:00 PM | 57.9        | 76.2         | 57.1        |
| 04:00 PM - 05:00 PM | 58.5        | 69.7         | 57.7        |
| 05:00 PM - 06:00 PM | 58.7        | 62.7         | 58.0        |
| 06:00 PM - 07:00 PM | 59.0        | 65.4         | 58.5        |
| 07:00 PM - 08:00 PM | 60.1        | 67.3         | 59.3        |
| 08:00 PM - 09:00 PM | 60.1        | 66.9         | 59.3        |
| 09:00 PM - 10:00 PM | 60.7        | 80.1         | 59.3        |
| 10:00 PM - 11:00 PM | 61.4        | 74.1         | 59.6        |
| 11:00 PM - 12:00 AM | 62.5        | 79.6         | 59.7        |
| 12:00 AM - 01:00 AM | 59.9        | 66.9         | 59.1        |
| 01:00 AM - 02:00 AM | 60.0        | 65.5         | 59.3        |
| 02:00 AM - 03:00 AM | 59.9        | 64.7         | 59.3        |
| 03:00 AM - 04:00 AM | 59.9        | 65.9         | 59.2        |
| 04:00 AM - 05:00 AM | 60.4        | 65.1         | 59.6        |
| 05:00 AM - 06:00 AM | 61.7        | 70.0         | 60.4        |
| 06:00 AM - 07:00 AM | 61.9        | 79.7         | 60.1        |
| 07:00 AM - 08:00 AM | 60.2        | 69.0         | 59.3        |
| 08:00 AM - 09:00 AM | 61.3        | 77.8         | 58.7        |

Leq Average 24 hrs. (dB(A)) 61.2  
Lmax (dB(A)) 85.5  
L90 (dB(A)) 59.1  
Ldn (dB(A)) 67.4

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197635-1

Page 1 of 1

**Sample Number** 24127651-3  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 11 - Dec 12, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 62.5        | 79.1         | 59.0        |
| 10:00 AM - 11:00 AM | 74.8        | 84.8         | 59.6        |
| 11:00 AM - 12:00 PM | 75.4        | 79.7         | 73.3        |
| 12:00 PM - 01:00 PM | 73.2        | 78.9         | 60.9        |
| 01:00 PM - 02:00 PM | 59.3        | 75.7         | 58.1        |
| 02:00 PM - 03:00 PM | 58.6        | 64.2         | 57.7        |
| 03:00 PM - 04:00 PM | 60.2        | 80.7         | 57.9        |
| 04:00 PM - 05:00 PM | 58.7        | 66.4         | 57.7        |
| 05:00 PM - 06:00 PM | 58.5        | 67.3         | 57.6        |
| 06:00 PM - 07:00 PM | 58.4        | 64.0         | 57.6        |
| 07:00 PM - 08:00 PM | 58.7        | 63.1         | 58.0        |
| 08:00 PM - 09:00 PM | 58.8        | 64.7         | 58.0        |
| 09:00 PM - 10:00 PM | 58.9        | 76.7         | 57.9        |
| 10:00 PM - 11:00 PM | 59.1        | 62.7         | 58.3        |
| 11:00 PM - 12:00 AM | 60.7        | 76.3         | 58.9        |
| 12:00 AM - 01:00 AM | 60.8        | 75.7         | 59.2        |
| 01:00 AM - 02:00 AM | 62.0        | 80.2         | 59.0        |
| 02:00 AM - 03:00 AM | 59.6        | 63.6         | 59.0        |
| 03:00 AM - 04:00 AM | 59.4        | 64.3         | 58.8        |
| 04:00 AM - 05:00 AM | 59.9        | 64.9         | 59.0        |
| 05:00 AM - 06:00 AM | 59.7        | 64.7         | 58.9        |
| 06:00 AM - 07:00 AM | 60.7        | 80.0         | 59.1        |
| 07:00 AM - 08:00 AM | 73.0        | 79.2         | 59.3        |
| 08:00 AM - 09:00 AM | 72.5        | 80.9         | 58.9        |

Leq Average 24 hrs. (dB(A)) 67.7  
Lmax (dB(A)) 84.8  
L90 (dB(A)) 58.9  
Ldn (dB(A)) 69.8

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head





## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197636-1

Page 1 of 1

**Sample Number** 24127651-4  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 12 - Dec 13, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 79.4        | 83.7         | 62.0        |
| 10:00 AM - 11:00 AM | 73.6        | 85.6         | 59.2        |
| 11:00 AM - 12:00 PM | 77.3        | 82.7         | 63.4        |
| 12:00 PM - 01:00 PM | 59.5        | 65.9         | 58.6        |
| 01:00 PM - 02:00 PM | 70.6        | 89.7         | 59.2        |
| 02:00 PM - 03:00 PM | 62.7        | 83.0         | 58.7        |
| 03:00 PM - 04:00 PM | 59.2        | 64.8         | 58.4        |
| 04:00 PM - 05:00 PM | 59.3        | 67.8         | 58.5        |
| 05:00 PM - 06:00 PM | 59.6        | 65.7         | 58.8        |
| 06:00 PM - 07:00 PM | 59.6        | 66.4         | 58.8        |
| 07:00 PM - 08:00 PM | 60.2        | 65.9         | 59.4        |
| 08:00 PM - 09:00 PM | 60.6        | 79.5         | 58.9        |
| 09:00 PM - 10:00 PM | 60.0        | 64.4         | 59.3        |
| 10:00 PM - 11:00 PM | 59.8        | 70.4         | 58.9        |
| 11:00 PM - 12:00 AM | 59.7        | 65.6         | 58.4        |
| 12:00 AM - 01:00 AM | 59.2        | 64.0         | 58.4        |
| 01:00 AM - 02:00 AM | 59.2        | 63.9         | 58.5        |
| 02:00 AM - 03:00 AM | 59.7        | 71.2         | 58.6        |
| 03:00 AM - 04:00 AM | 60.1        | 63.6         | 59.3        |
| 04:00 AM - 05:00 AM | 62.1        | 80.6         | 59.2        |
| 05:00 AM - 06:00 AM | 73.7        | 94.1         | 59.2        |
| 06:00 AM - 07:00 AM | 61.3        | 67.4         | 60.2        |
| 07:00 AM - 08:00 AM | 61.5        | 76.0         | 59.7        |
| 08:00 AM - 09:00 AM | 59.7        | 63.9         | 58.7        |

Leq Average 24 hrs. (dB(A)) 69.6  
Lmax (dB(A)) 94.1  
L90 (dB(A)) 58.9  
Ldn (dB(A)) 73.2

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head





## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197637-1

Page 1 of 1

**Sample Number** 24127651-5  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 13 - Dec 14, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 61.1        | 81.8         | 58.9        |
| 10:00 AM - 11:00 AM | 59.7        | 70.7         | 58.8        |
| 11:00 AM - 12:00 PM | 59.4        | 70.2         | 58.4        |
| 12:00 PM - 01:00 PM | 59.6        | 64.0         | 58.7        |
| 01:00 PM - 02:00 PM | 59.5        | 68.8         | 58.7        |
| 02:00 PM - 03:00 PM | 59.6        | 64.3         | 58.6        |
| 03:00 PM - 04:00 PM | 59.3        | 65.3         | 58.5        |
| 04:00 PM - 05:00 PM | 59.7        | 67.3         | 58.9        |
| 05:00 PM - 06:00 PM | 59.9        | 67.4         | 59.0        |
| 06:00 PM - 07:00 PM | 60.0        | 65.9         | 59.2        |
| 07:00 PM - 08:00 PM | 60.0        | 65.0         | 59.1        |
| 08:00 PM - 09:00 PM | 74.5        | 95.3         | 59.2        |
| 09:00 PM - 10:00 PM | 60.8        | 66.4         | 59.5        |
| 10:00 PM - 11:00 PM | 62.1        | 73.5         | 60.3        |
| 11:00 PM - 12:00 AM | 62.9        | 78.2         | 59.7        |
| 12:00 AM - 01:00 AM | 60.5        | 66.1         | 59.7        |
| 01:00 AM - 02:00 AM | 60.5        | 64.1         | 59.7        |
| 02:00 AM - 03:00 AM | 60.6        | 66.8         | 59.8        |
| 03:00 AM - 04:00 AM | 60.6        | 65.0         | 59.9        |
| 04:00 AM - 05:00 AM | 60.4        | 66.6         | 59.7        |
| 05:00 AM - 06:00 AM | 60.7        | 65.9         | 59.9        |
| 06:00 AM - 07:00 AM | 61.3        | 79.7         | 59.9        |
| 07:00 AM - 08:00 AM | 60.6        | 67.4         | 59.8        |
| 08:00 AM - 09:00 AM | 60.3        | 63.7         | 59.5        |

Leq Average 24 hrs. (dB(A)) 63.5  
Lmax (dB(A)) 95.3  
L90 (dB(A)) 59.2  
Ldn (dB(A)) 68.2

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A. Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556  
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197638-1

Page 1 of 1

**Sample Number** 24127651-6  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณเริ่มรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 14 - Dec 15, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 60.8        | 77.3         | 59.8        |
| 10:00 AM - 11:00 AM | 60.2        | 65.9         | 59.4        |
| 11:00 AM - 12:00 PM | 60.0        | 73.4         | 59.0        |
| 12:00 PM - 01:00 PM | 59.4        | 68.9         | 58.7        |
| 01:00 PM - 02:00 PM | 59.7        | 70.6         | 58.9        |
| 02:00 PM - 03:00 PM | 60.0        | 64.4         | 59.3        |
| 03:00 PM - 04:00 PM | 60.3        | 71.9         | 59.4        |
| 04:00 PM - 05:00 PM | 60.2        | 71.7         | 59.3        |
| 05:00 PM - 06:00 PM | 60.2        | 69.8         | 59.5        |
| 06:00 PM - 07:00 PM | 60.2        | 66.6         | 59.4        |
| 07:00 PM - 08:00 PM | 60.8        | 65.5         | 59.9        |
| 08:00 PM - 09:00 PM | 61.3        | 82.1         | 59.8        |
| 09:00 PM - 10:00 PM | 60.6        | 64.3         | 60.0        |
| 10:00 PM - 11:00 PM | 61.2        | 64.9         | 60.0        |
| 11:00 PM - 12:00 AM | 61.1        | 71.9         | 59.5        |
| 12:00 AM - 01:00 AM | 62.2        | 81.4         | 59.8        |
| 01:00 AM - 02:00 AM | 60.2        | 65.4         | 59.5        |
| 02:00 AM - 03:00 AM | 60.6        | 64.8         | 59.9        |
| 03:00 AM - 04:00 AM | 60.7        | 64.3         | 59.9        |
| 04:00 AM - 05:00 AM | 61.1        | 67.4         | 60.3        |
| 05:00 AM - 06:00 AM | 60.8        | 67.3         | 60.1        |
| 06:00 AM - 07:00 AM | 62.0        | 82.4         | 60.5        |
| 07:00 AM - 08:00 AM | 61.3        | 68.1         | 60.3        |
| 08:00 AM - 09:00 AM | 60.8        | 69.2         | 59.8        |

Leq Average 24 hrs. (dB(A)) 60.7  
Lmax (dB(A)) 82.4  
L90 (dB(A)) 59.8  
Ldn (dB(A)) 67.5

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197639-1

Page 1 of 1

**Sample Number** 24127651-7  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงานด้านทิศใต้ (พื้นที่ลานปูน) (GPS 47P 0733650, 1404821)  
**Measurement Date** Dec 15 - Dec 16, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 296516

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 60.6        | 77.7         | 59.4        |
| 10:00 AM - 11:00 AM | 60.2        | 71.3         | 59.2        |
| 11:00 AM - 12:00 PM | 59.8        | 69.6         | 58.5        |
| 12:00 PM - 01:00 PM | 59.4        | 65.4         | 58.5        |
| 01:00 PM - 02:00 PM | 59.3        | 65.4         | 58.1        |
| 02:00 PM - 03:00 PM | 59.2        | 65.7         | 58.2        |
| 03:00 PM - 04:00 PM | 59.3        | 73.0         | 58.2        |
| 04:00 PM - 05:00 PM | 59.4        | 64.6         | 58.6        |
| 05:00 PM - 06:00 PM | 59.8        | 65.7         | 59.0        |
| 06:00 PM - 07:00 PM | 59.6        | 64.3         | 58.9        |
| 07:00 PM - 08:00 PM | 60.8        | 74.1         | 59.3        |
| 08:00 PM - 09:00 PM | 62.4        | 82.6         | 59.3        |
| 09:00 PM - 10:00 PM | 60.0        | 65.9         | 59.3        |
| 10:00 PM - 11:00 PM | 60.7        | 64.9         | 59.4        |
| 11:00 PM - 12:00 AM | 60.9        | 65.5         | 59.9        |
| 12:00 AM - 01:00 AM | 60.3        | 64.8         | 59.7        |
| 01:00 AM - 02:00 AM | 60.6        | 66.2         | 59.9        |
| 02:00 AM - 03:00 AM | 60.9        | 67.2         | 59.9        |
| 03:00 AM - 04:00 AM | 60.6        | 67.4         | 59.7        |
| 04:00 AM - 05:00 AM | 60.4        | 65.6         | 59.7        |
| 05:00 AM - 06:00 AM | 61.1        | 67.2         | 60.1        |
| 06:00 AM - 07:00 AM | 62.7        | 83.0         | 60.5        |
| 07:00 AM - 08:00 AM | 61.5        | 70.2         | 60.2        |
| 08:00 AM - 09:00 AM | 62.5        | 78.8         | 60.2        |

Leq Average 24 hrs. (dB(A)) 60.6  
Lmax (dB(A)) 83.0  
L90 (dB(A)) 59.3  
Ldn (dB(A)) 67.3

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197640-1

Page 1 of 1

**Sample Number** 24127651-8  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณเริ่มรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 09 - Dec 10, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 66.3        | 82.6         | 63.5        |
| 10:00 AM - 11:00 AM | 65.5        | 74.3         | 62.8        |
| 11:00 AM - 12:00 PM | 65.8        | 79.5         | 62.4        |
| 12:00 PM - 01:00 PM | 65.0        | 78.3         | 61.8        |
| 01:00 PM - 02:00 PM | 64.3        | 85.8         | 60.3        |
| 02:00 PM - 03:00 PM | 63.1        | 76.9         | 59.4        |
| 03:00 PM - 04:00 PM | 63.1        | 76.5         | 59.6        |
| 04:00 PM - 05:00 PM | 63.9        | 77.2         | 60.0        |
| 05:00 PM - 06:00 PM | 65.6        | 82.3         | 62.0        |
| 06:00 PM - 07:00 PM | 64.1        | 75.3         | 60.9        |
| 07:00 PM - 08:00 PM | 64.8        | 81.1         | 62.1        |
| 08:00 PM - 09:00 PM | 66.4        | 78.9         | 63.7        |
| 09:00 PM - 10:00 PM | 65.4        | 77.2         | 63.0        |
| 10:00 PM - 11:00 PM | 65.1        | 81.4         | 62.5        |
| 11:00 PM - 12:00 AM | 65.4        | 77.2         | 62.3        |
| 12:00 AM - 01:00 AM | 66.2        | 77.5         | 63.4        |
| 01:00 AM - 02:00 AM | 65.5        | 76.3         | 62.5        |
| 02:00 AM - 03:00 AM | 64.7        | 80.2         | 62.0        |
| 03:00 AM - 04:00 AM | 66.5        | 78.1         | 63.3        |
| 04:00 AM - 05:00 AM | 66.1        | 74.0         | 63.0        |
| 05:00 AM - 06:00 AM | 65.8        | 76.2         | 63.1        |
| 06:00 AM - 07:00 AM | 66.4        | 83.3         | 63.6        |
| 07:00 AM - 08:00 AM | 67.8        | 78.7         | 64.8        |
| 08:00 AM - 09:00 AM | 66.8        | 82.8         | 63.9        |

Leq Average 24 hrs. (dB(A)) 65.5  
Lmax (dB(A)) 85.8  
L90 (dB(A)) 62.5  
Ldn (dB(A)) 72.1  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197641-1

Page 1 of 1

**Sample Number** 24127651-9  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณเริ่มรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 10 - Dec 11, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.9        | 85.5         | 62.6        |
| 10:00 AM - 11:00 AM | 65.1        | 80.1         | 62.1        |
| 11:00 AM - 12:00 PM | 64.8        | 79.3         | 61.6        |
| 12:00 PM - 01:00 PM | 64.3        | 86.0         | 61.2        |
| 01:00 PM - 02:00 PM | 64.3        | 80.0         | 61.0        |
| 02:00 PM - 03:00 PM | 63.8        | 81.0         | 60.2        |
| 03:00 PM - 04:00 PM | 62.6        | 78.2         | 58.9        |
| 04:00 PM - 05:00 PM | 63.7        | 80.1         | 59.4        |
| 05:00 PM - 06:00 PM | 64.5        | 85.7         | 60.3        |
| 06:00 PM - 07:00 PM | 64.1        | 89.7         | 60.2        |
| 07:00 PM - 08:00 PM | 63.9        | 83.6         | 60.7        |
| 08:00 PM - 09:00 PM | 65.5        | 79.1         | 62.3        |
| 09:00 PM - 10:00 PM | 64.0        | 76.0         | 61.4        |
| 10:00 PM - 11:00 PM | 63.4        | 80.1         | 60.9        |
| 11:00 PM - 12:00 AM | 63.5        | 94.3         | 60.9        |
| 12:00 AM - 01:00 AM | 63.5        | 77.1         | 61.0        |
| 01:00 AM - 02:00 AM | 62.9        | 81.2         | 60.6        |
| 02:00 AM - 03:00 AM | 63.0        | 83.9         | 60.7        |
| 03:00 AM - 04:00 AM | 62.6        | 75.1         | 60.5        |
| 04:00 AM - 05:00 AM | 63.1        | 75.2         | 60.8        |
| 05:00 AM - 06:00 AM | 64.1        | 74.4         | 61.8        |
| 06:00 AM - 07:00 AM | 65.5        | 80.9         | 62.6        |
| 07:00 AM - 08:00 AM | 66.8        | 82.5         | 63.4        |
| 08:00 AM - 09:00 AM | 66.3        | 82.3         | 62.8        |

Leq Average 24 hrs. (dB(A)) 64.4  
Lmax (dB(A)) 94.3  
L90 (dB(A)) 60.9  
Ldn (dB(A)) 70.2

Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197642-1

Page 1 of 1

**Sample Number** 24127651-10  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณเริ่มรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 11 - Dec 12, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.3        | 84.2         | 62.0        |
| 10:00 AM - 11:00 AM | 64.9        | 89.0         | 61.7        |
| 11:00 AM - 12:00 PM | 64.8        | 76.3         | 61.6        |
| 12:00 PM - 01:00 PM | 64.4        | 96.1         | 61.1        |
| 01:00 PM - 02:00 PM | 63.8        | 75.0         | 60.8        |
| 02:00 PM - 03:00 PM | 63.5        | 77.2         | 60.3        |
| 03:00 PM - 04:00 PM | 63.9        | 85.8         | 60.7        |
| 04:00 PM - 05:00 PM | 76.7        | 105.7        | 61.1        |
| 05:00 PM - 06:00 PM | 65.5        | 89.0         | 60.9        |
| 06:00 PM - 07:00 PM | 63.9        | 79.8         | 60.3        |
| 07:00 PM - 08:00 PM | 63.4        | 74.9         | 60.6        |
| 08:00 PM - 09:00 PM | 63.5        | 76.7         | 60.9        |
| 09:00 PM - 10:00 PM | 63.7        | 72.8         | 61.6        |
| 10:00 PM - 11:00 PM | 62.1        | 73.6         | 59.7        |
| 11:00 PM - 12:00 AM | 63.0        | 81.0         | 60.3        |
| 12:00 AM - 01:00 AM | 63.5        | 80.2         | 61.0        |
| 01:00 AM - 02:00 AM | 62.9        | 73.8         | 60.7        |
| 02:00 AM - 03:00 AM | 63.4        | 73.9         | 60.8        |
| 03:00 AM - 04:00 AM | 62.6        | 73.0         | 60.3        |
| 04:00 AM - 05:00 AM | 64.1        | 72.2         | 61.5        |
| 05:00 AM - 06:00 AM | 65.0        | 74.7         | 61.9        |
| 06:00 AM - 07:00 AM | 65.8        | 81.7         | 61.9        |
| 07:00 AM - 08:00 AM | 66.1        | 80.9         | 62.8        |
| 08:00 AM - 09:00 AM | 65.3        | 78.2         | 62.1        |

Leq Average 24 hrs. (dB(A)) 66.5  
Lmax (dB(A)) 105.7  
L90 (dB(A)) 60.9  
Ldn (dB(A)) 71.0  
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197643-1

Page 1 of 1

**Sample Number** 24127651-11  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 12 - Dec 13, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.8        | 86.3         | 62.2        |
| 10:00 AM - 11:00 AM | 65.1        | 80.1         | 61.8        |
| 11:00 AM - 12:00 PM | 64.7        | 77.3         | 61.2        |
| 12:00 PM - 01:00 PM | 64.7        | 78.4         | 61.3        |
| 01:00 PM - 02:00 PM | 64.9        | 77.7         | 61.4        |
| 02:00 PM - 03:00 PM | 64.4        | 75.7         | 61.2        |
| 03:00 PM - 04:00 PM | 64.1        | 79.9         | 61.1        |
| 04:00 PM - 05:00 PM | 65.1        | 87.8         | 61.7        |
| 05:00 PM - 06:00 PM | 66.0        | 90.0         | 62.2        |
| 06:00 PM - 07:00 PM | 65.6        | 87.6         | 62.0        |
| 07:00 PM - 08:00 PM | 65.7        | 81.1         | 62.2        |
| 08:00 PM - 09:00 PM | 65.5        | 83.0         | 61.8        |
| 09:00 PM - 10:00 PM | 64.5        | 76.9         | 61.7        |
| 10:00 PM - 11:00 PM | 63.6        | 77.0         | 60.6        |
| 11:00 PM - 12:00 AM | 62.9        | 78.3         | 60.4        |
| 12:00 AM - 01:00 AM | 63.4        | 75.5         | 60.7        |
| 01:00 AM - 02:00 AM | 62.0        | 73.9         | 60.2        |
| 02:00 AM - 03:00 AM | 61.8        | 78.7         | 59.7        |
| 03:00 AM - 04:00 AM | 62.4        | 80.8         | 60.1        |
| 04:00 AM - 05:00 AM | 64.5        | 80.6         | 61.3        |
| 05:00 AM - 06:00 AM | 64.0        | 79.3         | 61.5        |
| 06:00 AM - 07:00 AM | 64.9        | 83.0         | 61.9        |
| 07:00 AM - 08:00 AM | 65.9        | 79.6         | 62.7        |
| 08:00 AM - 09:00 AM | 66.1        | 84.1         | 63.1        |

Leq Average 24 hrs. (dB(A)) 64.6  
Lmax (dB(A)) 90.0  
L90 (dB(A)) 61.4  
Ldn (dB(A)) 70.1  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head





## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197644-1

Page 1 of 1

**Sample Number** 24127651-12  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 13 - Dec 14, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.5        | 81.3         | 62.5        |
| 10:00 AM - 11:00 AM | 65.6        | 83.9         | 62.1        |
| 11:00 AM - 12:00 PM | 65.4        | 87.7         | 61.9        |
| 12:00 PM - 01:00 PM | 64.9        | 80.2         | 61.6        |
| 01:00 PM - 02:00 PM | 65.8        | 84.5         | 62.1        |
| 02:00 PM - 03:00 PM | 65.2        | 76.9         | 61.8        |
| 03:00 PM - 04:00 PM | 65.2        | 78.9         | 62.1        |
| 04:00 PM - 05:00 PM | 65.7        | 84.7         | 62.2        |
| 05:00 PM - 06:00 PM | 66.0        | 83.4         | 62.5        |
| 06:00 PM - 07:00 PM | 65.9        | 82.6         | 62.6        |
| 07:00 PM - 08:00 PM | 66.0        | 85.3         | 62.5        |
| 08:00 PM - 09:00 PM | 65.6        | 83.1         | 62.6        |
| 09:00 PM - 10:00 PM | 65.7        | 82.2         | 62.2        |
| 10:00 PM - 11:00 PM | 64.9        | 82.8         | 61.8        |
| 11:00 PM - 12:00 AM | 65.3        | 80.1         | 62.1        |
| 12:00 AM - 01:00 AM | 64.5        | 77.5         | 61.4        |
| 01:00 AM - 02:00 AM | 65.5        | 85.1         | 62.1        |
| 02:00 AM - 03:00 AM | 65.3        | 74.4         | 62.0        |
| 03:00 AM - 04:00 AM | 64.9        | 79.2         | 61.8        |
| 04:00 AM - 05:00 AM | 66.2        | 82.6         | 62.7        |
| 05:00 AM - 06:00 AM | 66.1        | 78.3         | 62.8        |
| 06:00 AM - 07:00 AM | 67.2        | 83.5         | 63.6        |
| 07:00 AM - 08:00 AM | 66.4        | 79.9         | 63.0        |
| 08:00 AM - 09:00 AM | 66.0        | 82.2         | 62.6        |

Leq Average 24 hrs. (dB(A)) 65.7  
Lmax (dB(A)) 87.7  
L90 (dB(A)) 62.1  
Ldn (dB(A)) 72.0  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head





## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197645-1

Page 1 of 1

**Sample Number** 24127651-13  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 14 - Dec 15, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.4        | 79.0         | 62.3        |
| 10:00 AM - 11:00 AM | 65.3        | 83.9         | 62.0        |
| 11:00 AM - 12:00 PM | 65.1        | 79.6         | 62.0        |
| 12:00 PM - 01:00 PM | 64.4        | 77.2         | 61.7        |
| 01:00 PM - 02:00 PM | 65.2        | 86.6         | 61.7        |
| 02:00 PM - 03:00 PM | 65.0        | 81.4         | 61.8        |
| 03:00 PM - 04:00 PM | 65.7        | 79.2         | 62.2        |
| 04:00 PM - 05:00 PM | 66.6        | 86.2         | 62.7        |
| 05:00 PM - 06:00 PM | 66.2        | 82.3         | 62.6        |
| 06:00 PM - 07:00 PM | 65.9        | 84.1         | 62.6        |
| 07:00 PM - 08:00 PM | 65.6        | 81.0         | 62.5        |
| 08:00 PM - 09:00 PM | 66.0        | 82.5         | 62.6        |
| 09:00 PM - 10:00 PM | 64.5        | 78.0         | 61.6        |
| 10:00 PM - 11:00 PM | 65.3        | 79.9         | 61.9        |
| 11:00 PM - 12:00 AM | 65.1        | 83.2         | 62.2        |
| 12:00 AM - 01:00 AM | 63.2        | 78.5         | 60.7        |
| 01:00 AM - 02:00 AM | 63.1        | 82.3         | 60.7        |
| 02:00 AM - 03:00 AM | 62.9        | 70.6         | 60.8        |
| 03:00 AM - 04:00 AM | 63.1        | 77.6         | 60.7        |
| 04:00 AM - 05:00 AM | 64.2        | 84.3         | 61.4        |
| 05:00 AM - 06:00 AM | 64.5        | 84.2         | 61.8        |
| 06:00 AM - 07:00 AM | 65.5        | 78.8         | 62.3        |
| 07:00 AM - 08:00 AM | 66.7        | 87.1         | 63.1        |
| 08:00 AM - 09:00 AM | 65.5        | 75.2         | 62.4        |

Leq Average 24 hrs. (dB(A)) 65.1  
Lmax (dB(A)) 87.1  
L90 (dB(A)) 62.0  
Ldn (dB(A)) 70.8  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127651**  
Date Received : Dec 16, 2024  
Date Reported : Dec 19, 2024  
Report Number: 3197646-1

Page 1 of 1

**Sample Number** 24127651-14  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บริเวณริมรั้วของโรงงาน ด้านทิศตะวันตกเฉียงเหนือ (ป้อมประตู 1) (GPS 47P 0733599, 1405064)  
**Measurement Date** Dec 15 - Dec 16, 2024  
**Measurement by** Nantawat Sarin  
**Sound Level meter** Serial No. 734221

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:00 AM - 10:00 AM | 65.7        | 87.6         | 62.0        |
| 10:00 AM - 11:00 AM | 65.7        | 83.9         | 61.8        |
| 11:00 AM - 12:00 PM | 64.8        | 81.7         | 61.4        |
| 12:00 PM - 01:00 PM | 64.6        | 77.0         | 61.0        |
| 01:00 PM - 02:00 PM | 64.4        | 85.2         | 61.0        |
| 02:00 PM - 03:00 PM | 63.9        | 85.9         | 60.5        |
| 03:00 PM - 04:00 PM | 64.7        | 81.2         | 61.1        |
| 04:00 PM - 05:00 PM | 65.1        | 85.1         | 61.5        |
| 05:00 PM - 06:00 PM | 64.7        | 80.4         | 61.2        |
| 06:00 PM - 07:00 PM | 63.7        | 74.2         | 61.1        |
| 07:00 PM - 08:00 PM | 64.5        | 82.5         | 61.8        |
| 08:00 PM - 09:00 PM | 64.2        | 77.2         | 61.1        |
| 09:00 PM - 10:00 PM | 64.3        | 76.2         | 61.0        |
| 10:00 PM - 11:00 PM | 63.0        | 73.8         | 60.6        |
| 11:00 PM - 12:00 AM | 64.0        | 77.8         | 61.1        |
| 12:00 AM - 01:00 AM | 63.5        | 74.5         | 60.6        |
| 01:00 AM - 02:00 AM | 64.2        | 74.6         | 61.0        |
| 02:00 AM - 03:00 AM | 64.5        | 77.9         | 61.4        |
| 03:00 AM - 04:00 AM | 64.1        | 76.9         | 61.1        |
| 04:00 AM - 05:00 AM | 65.2        | 74.7         | 61.7        |
| 05:00 AM - 06:00 AM | 65.8        | 85.8         | 62.3        |
| 06:00 AM - 07:00 AM | 66.6        | 84.6         | 63.2        |
| 07:00 AM - 08:00 AM | 67.0        | 91.4         | 63.5        |
| 08:00 AM - 09:00 AM | 66.5        | 82.7         | 62.5        |

Leq Average 24 hrs. (dB(A)) 64.9  
Lmax (dB(A)) 91.4  
L90 (dB(A)) 61.1  
Ldn (dB(A)) 71.1  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

## ภาคผนวก ค-4

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ระดับเสียงในบริเวณการทำงาน



## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127648**

Date Received : Dec 09, 2024  
Date Reported : Dec 13, 2024  
Report Number: 3192634-1

Page 1 of 1

**Sample Number** 24127648-1  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ CO Compressor  
**Measurement Date** Dec 09, 2024  
**Measurement by** Natthapon Jiengwareewong

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:15 AM - 10:15 AM | 68.7        | 78.4         | 67.8        |
| 10:15 AM - 11:15 AM | 69.4        | 82.6         | 68.1        |
| 11:15 AM - 12:15 PM | 68.1        | 71.9         | 67.7        |
| 12:15 PM - 01:15 PM | 70.3        | 78.9         | 67.1        |
| 01:15 PM - 02:15 PM | 68.9        | 78.5         | 67.1        |
| 02:15 PM - 03:15 PM | 69.9        | 82.9         | 68.7        |
| 03:15 PM - 04:15 PM | 69.2        | 73.1         | 68.7        |
| 04:15 PM - 05:15 PM | 69.3        | 82.3         | 68.1        |

Leq Average 8 hrs. (dB(A))

69.3

Lmax (dB(A))

82.9

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

**Technical Management**

Chontichak

Chonticha Subongkoch  
Scientist (3)

**Approved by**

Supot S

Supot Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127648**

Date Received : Dec 09, 2024  
Date Reported : Dec 13, 2024  
Report Number: 3192635-1

Page 1 of 1

**Sample Number** 24127648-2  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ CO2 Compressor  
**Measurement Date** Dec 09, 2024  
**Measurement by** Natthapon Jiengwareewong

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:12 AM - 10:12 AM | 67.5        | 79.4         | 64.1        |
| 10:12 AM - 11:12 AM | 66.8        | 79.8         | 63.7        |
| 11:12 AM - 12:12 PM | 66.3        | 80.9         | 63.2        |
| 12:12 PM - 01:12 PM | 66.0        | 78.9         | 63.1        |
| 01:12 PM - 02:12 PM | 66.5        | 78.2         | 63.5        |
| 02:12 PM - 03:12 PM | 66.4        | 77.6         | 63.5        |
| 03:12 PM - 04:12 PM | 66.4        | 79.3         | 63.3        |
| 04:12 PM - 05:12 PM | 66.2        | 77.9         | 63.2        |

Leq Average 8 hrs. (dB(A))

66.5

Lmax (dB(A))

80.9

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

**Technical Management**

Chontichak

Chonticha Subongkoch  
Scientist (3)

**Approved by**

Supot S

Supot Salamteh  
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A. Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556  
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

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RIGHT SOLUTIONS RIGHT PARTNER



## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127648**

Date Received : Dec 09, 2024  
Date Reported : Dec 13, 2024  
Report Number: 3192636-1

Page 1 of 1

**Sample Number** 24127648-3  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Boiler Feed Water Pumps  
**Measurement Date** Dec 09, 2024  
**Measurement by** Natthapon Jiengwareewong

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:18 AM - 10:18 AM | 75.1        | 96.5         | 70.4        |
| 10:18 AM - 11:18 AM | 73.5        | 88.0         | 69.9        |
| 11:18 AM - 12:18 PM | 74.3        | 92.9         | 69.9        |
| 12:18 PM - 01:18 PM | 71.2        | 74.4         | 68.7        |
| 01:18 PM - 02:18 PM | 72.6        | 87.5         | 68.9        |
| 02:18 PM - 03:18 PM | 72.9        | 90.9         | 68.9        |
| 03:18 PM - 04:18 PM | 73.0        | 79.0         | 69.8        |
| 04:18 PM - 05:18 PM | 73.2        | 88.1         | 69.5        |

Leq Average 8 hrs. (dB(A))

73.4

Lmax (dB(A))

96.5

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

**Technical Management**

Chontichak

Chonticha Subongkoch  
Scientist (3)

**Approved by**

Supot S

Supot Salamteh  
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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 24127648**

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3192637-1

Page 1 of 1

**Sample Number** 24127648-4  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ NG Compressor  
**Measurement Date** Dec 09, 2024  
**Measurement by** Natthapon Jiengwareewong

| Time                | Leq (dB(A)) | Lmax (dB(A)) | L90 (dB(A)) |
|---------------------|-------------|--------------|-------------|
| 09:10 AM - 10:10 AM | 77.5        | 90.1         | 76.7        |
| 10:10 AM - 11:10 AM | 76.9        | 79.3         | 76.4        |
| 11:10 AM - 12:10 PM | 76.7        | 78.2         | 76.2        |
| 12:10 PM - 01:10 PM | 76.5        | 78.0         | 76.0        |
| 01:10 PM - 02:10 PM | 80.6        | 99.9         | 75.9        |
| 02:10 PM - 03:10 PM | 76.1        | 79.6         | 75.8        |
| 03:10 PM - 04:10 PM | 75.9        | 77.9         | 75.6        |
| 04:10 PM - 05:10 PM | 75.8        | 79.3         | 75.5        |

Leq Average 8 hrs. (dB(A))

77.3

Lmax (dB(A))

99.9

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

**Technical Management**

Chontichak

Chonticha Subongkoch  
Scientist (3)

**Approved by**

Supot S

Supot Salamteh  
Section Head

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## ภาคผนวก ค-5

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การทำงานระดับเสียงเฉลี่ยตลอดเวลาการทำงาน





## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 2449979**

Date Received : May 13, 2024

Date Reported : May 14, 2024

Report Number : 2982274-1

Page 1 of 4

**Sample Number** 2449979-1  
**Sampled Date** May 08, 2024  
**Sample Description** Noise Dose  
**Personal Sampling** คุณเอื้ออังกูร ประเสริฐ  
**Date Analysis Commenced** May 13, 2024

| Analyte  | Sampled Date/time   | Unit  | LOD | LOQ (LOR) | Result | Guideline Limit | Method   | Guideline | Testing Location |
|--|---------------------|-------|-----|-----------|--------|-----------------|--|-----------|------------------|
| <b>Air Testing</b>                             |                     |       |     |           |        |                 |  |           |                  |
| Noise Dose (12 hrs.)<br>(Calculated from Lavg) | 08:00 AM - 08:00 PM | %     | -   | 1         | 275    | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| Noise Dose (8 hrs.)                            | 08:00 AM - 08:00 PM | %     | -   | 1         | 257    | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (12 hrs.)<br>(Calculated from Lavg)        | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 87.4   | 83*             | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (8 hrs.)                                   | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 89.1   | 85              | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |

### Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)  
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)  
\* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

**Sampled By :** Natthapon Jiengwareewong

### Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Suport Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 2449979**

Date Received : May 13, 2024

Date Reported : May 14, 2024

Report Number : 2982274-1

Page 2 of 4

**Sample Number** 2449979-2  
**Sampled Date** May 08, 2024  
**Sample Description** Noise Dose  
**Personal Sampling** คุณชานันต์ นามวิชา  
**Date Analysis Commenced** May 13, 2024

| Analyte  | Sampled Date/time   | Unit  | LOD | LOQ (LOR) | Result | Guideline Limit | Method   | Guideline | Testing Location |
|--|---------------------|-------|-----|-----------|--------|-----------------|--|-----------|------------------|
| <b>Air Testing</b>                             |                     |       |     |           |        |                 |  |           |                  |
| Noise Dose (12 hrs.)<br>(Calculated from Lavg) | 08:00 AM - 08:00 PM | %     | -   | 1         | 12.0   | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| Noise Dose (8 hrs.)                            | 08:00 AM - 08:00 PM | %     | -   | 1         | 11.5   | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (12 hrs.)<br>(Calculated from Lavg)        | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 73.8   | 83*             | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (8 hrs.)                                   | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 75.6   | 85              | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |

### Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)  
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)  
\* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

**Sampled By :** Natthapon Jiengwareewong

### Remark :

- LOD : Limit of Detection
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Approved by

Suport Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 2449979**

Date Received : May 13, 2024

Date Reported : May 14, 2024

Report Number : 2982274-1

Page 3 of 4

**Sample Number** 2449979-3  
**Sampled Date** May 09, 2024  
**Sample Description** Noise Dose  
**Personal Sampling** คุณชนกฤต ศรีมาลัย  
**Date Analysis Commenced** May 13, 2024

| Analyte  | Sampled Date/time   | Unit  | LOD | LOQ (LOR) | Result | Guideline Limit | Method   | Guideline | Testing Location |
|--|---------------------|-------|-----|-----------|--------|-----------------|--|-----------|------------------|
| <b>Air Testing</b>                             |                     |       |     |           |        |                 |  |           |                  |
| Noise Dose (12 hrs.)<br>(Calculated from Lavg) | 08:00 AM - 08:00 PM | %     | -   | 1         | 14.4   | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| Noise Dose (8 hrs.)                            | 08:00 AM - 08:00 PM | %     | -   | 1         | 13.5   | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (12 hrs.)<br>(Calculated from Lavg)        | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 74.6   | 83*             | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (8 hrs.)                                   | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 76.3   | 85              | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |

### Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)  
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)  
\* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

**Sampled By :** Natthapon Jiengwareewong

### Remark :

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Suport Salamteh  
Section Head

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## Analysis / Test Report

**Client :** Linde HyCO Limited  
10/1, I-4 Road, T.Map Ta Phut, A.Muang, Rayong Thailand 21150  
**P/O :** 9103799242  
**Project Name :** Environmental Monitoring  
**Project Location :**

**Lot ID: 2449979**

Date Received : May 13, 2024

Date Reported : May 14, 2024

Report Number : 2982274-1

Page 4 of 4

**Sample Number** 2449979-4  
**Sampled Date** May 09, 2024  
**Sample Description** Noise Dose  
**Personal Sampling** คุณจักรพันธ์ จันทรินทร์เวศน์  
**Date Analysis Commenced** May 13, 2024

| Analyte  | Sampled Date/time   | Unit  | LOD | LOQ (LOR) | Result | Guideline Limit | Method   | Guideline | Testing Location |
|--|---------------------|-------|-----|-----------|--------|-----------------|--|-----------|------------------|
| <b>Air Testing</b>                             |                     |       |     |           |        |                 |  |           |                  |
| Noise Dose (12 hrs.)<br>(Calculated from Lavg) | 08:00 AM - 08:00 PM | %     | -   | 1         | 7.2    | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| Noise Dose (8 hrs.)                            | 08:00 AM - 08:00 PM | %     | -   | 1         | 6.9    | No Standard     | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (12 hrs.)<br>(Calculated from Lavg)        | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 71.6   | 83*             | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |
| TWA (8 hrs.)                                   | 08:00 AM - 08:00 PM | dB(A) | -   | -         | 73.4   | 85              | MOL, Department Labour Protection and Welfare (B.E.2561) | MOL       | Rayong           |

### Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)  
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)  
\* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

**Sampled By :** Natthapon Jiengwareewong

### Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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