

**ANALYSIS REPORT**

REPORT NO.	:	UIA 077/2024
REPORT DATE	:	JULY 18, 2024
CUSTOMER NAME	:	UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.
ADDRESS	:	3 SOI UDOMSUK 41, SUKHUMVIT ROAD, BANGCHAK, PHRAKHANONG, BANGKOK 10260
CONTACT	:	TEL: 02-763-2828 EXT.7098 EMAIL: JETJARIN.T@UAECONSULTANT.CO.TH
SAMPLE ID	:	20240701.STK.077
TYPE OF SAMPLE	:	ตัวอย่างจาก ปล่องระบายอากาศเสีย (STACK)
DESCRIPTION OF SAMPLE	:	FILTER (NORMAL), XAD-2 RESIN (NORMAL), RINSE SOLUTION (COLORLESS, TRANSPARENT)
RECEIVED DATE	:	JULY 1, 2024
ANALYSIS PERIOD	:	01 - 18/07/2024
ANALYSIS METHOD	:	UIA.T.01 BASED ON US EPA, CODE OF FEDERAL REGULATION, 40 CFR PT. 60 APP. A-7 METHOD 23, JULY 2018 AND JIS K 0311, JUNE 2005
ANALYZED BY	:	MS. TANOMLUCK NATEHAN (จ-252-ก-0002)

SAMPLING BY	:	MR. SOMPONG SAKUNTHAI (UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.)
SAMPLING DATE	:	JUNE 29, 2024
SAMPLING LOCATION	:	NONGKHAINAYU CO., LTD.
REF. SAMPLE NAME	:	ปล่อง STACK (AO669-1)

PARAMETOR		REPORT LOD (ng/sample)	AMOUNT (ng/sample)	TEF ^{1/}	TEQ ^{2/}
PCDDs	2,3,7,8-TeCDD	0.000500	< 0.000500	1	< 0.000500
	1,2,3,7,8-PeCDD	0.00250	< 0.00250	0.5	< 0.00125
	1,2,3,4,7,8-HxCDD	0.00250	< 0.00250	0.1	< 0.000250
	1,2,3,6,7,8-HxCDD	0.00250	< 0.00250	0.1	< 0.000250
	1,2,3,7,8,9-HxCDD	0.00250	< 0.00250	0.1	< 0.000250
	1,2,3,4,6,7,8-HpCDD	0.00250	0.0149	0.01	0.000149
	OCDD	0.00500	0.0162	0.001	0.0000162
PCDFs	2,3,7,8-TeCDF	0.000500	< 0.000500	0.1	< 0.0000500
	1,2,3,7,8-PeCDF	0.00250	< 0.00250	0.05	< 0.000125
	2,3,4,7,8-PeCDF	0.00250	< 0.00250	0.5	< 0.00125
	1,2,3,4,7,8-HxCDF	0.00250	0.00737	0.1	0.000737
	1,2,3,6,7,8-HxCDF	0.00250	0.00758	0.1	0.000758
	2,3,4,6,7,8-HxCDF	0.00250	0.0125	0.1	0.00125
	1,2,3,7,8,9-HxCDF	0.00250	< 0.00250	0.1	< 0.000250
	1,2,3,4,6,7,8-HpCDF	0.00250	0.0193	0.01	0.000193
	1,2,3,4,7,8,9-HpCDF	0.00250	< 0.00250	0.01	< 0.0000250
	OCDF	0.00500	< 0.00500	0.001	< 0.00000500
	Total PCDDs and PCDFs ^{3/}		0.0779	-	0.00310

^{1/} TEF (TOXIC EQUIVALENCY FACTOR), USE IS ACCORDING TO NATO/CCMS (1988), AS AN INTERNATIONAL TOXIC EQUIVALENCY FACTORS (I-TEFS).

^{2/} TEQ (TOXIC EQUIVALENCY) FOR EACH COMPONENT OBTAINED BY MULTIPLYING THE CONCENTRATION WITH ITS CORRESPONDING TEF.

^{3/} THE TOTAL PCDDs AND PCDFs ARE CALCULATED EXCLUDING ANY PCDDs OR PCDFs THAT ARE REPORTED BELOW THE LIMIT OF DETECTION (LOD).
DETECTION LIMIT OF TOTAL PCDDs AND PCDFs CALCULATED BY COMBINE ALL DETECTION LIMIT OF TOXIC PCDDs AND PCDFs.
THE SAMPLING PROCEDURES AND APPROVAL ARE NOT INCLUDED

MS. THEERANAN DUANGDEETIP (จ-252-ก-0003)
DIOXIN LABORATORY CHIEF

PAGE: 1
TOTAL PAGE: 1
UIA.F.7.8.01-5(0)-05Apr2024

ANALYSIS CALCULATION

REPORT NO.	: UIA 077-1/2024
CALCULATED DATE	: 20240701.STK.077
CLIENT NAME	: UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.
ADDRESS	: 3 SOI UDOMSUK 41, SUKHUMVIT ROAD, BANGCHAK, PHRAKHANONG, BANGKOK 10260
SAMPLE ID	: 20240701.STK.077
TYPE OF SAMPLE	: ตัวอย่างจาก ปล่องระบายอากาศเสีย (STACK)
DESCRIPTION OF SAMPLE	: FILTER (NORMAL), XAD-2 RESIN (NORMAL), RINSE SOLUTION (COLORLESS, TRANSPARENT)
RECEIVED DATE	: JULY 1, 2024
ANALYSIS PERIOD	: 01 - 18/07/2024
METHOD OF ANALYSIS	: UIA.T.01 BASED ON US EPA, CODE OF FEDERAL REGULATION, 40 CFR PT. 60 APP. A-7 METHOD 23, JULY 2018 AND JIS K 0311, JUNE 2005
CALCULATED BY	: THEERANAN DUANGDEETIP

SAMPLING BY	: MR. SOMPONG SAKUNTHAI (UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.)
METHOD OF SAMPLING	: U.S. EPA METHOD 23 (BY CUSTOMER)
SAMPLING LOCATION	: NONGKHAINAYU CO., LTD.
SAMPLING DATE	: JUNE 29, 2024
REF. SAMPLE NAME	: ปล่อง STACK (AO669-1)
Standard Meter Volume ($V_{m, std}$)	1.8591 m^3
OXYGEN DURING SAMPLING	3.59 %

Component		Report LOD (ng/m ³)	Amount (ng/m ³)	7% Oxygen (ng/m ³)	TEF ^{1/}	TEQ ^{2/} (ng-TEQ/m ³)	7% Oxygen (ng-TEQ/m ³)
PCDDs	2,3,7,8-TeCDD	0.000269	< 0.000269	< 0.000216	1	< 0.000269	< 0.000216
	1,2,3,7,8-PeCDD	0.00134	< 0.00134	< 0.00108	0.5	< 0.000670	< 0.000539
	1,2,3,4,7,8-HxCDD	0.00134	< 0.00134	< 0.00108	0.1	< 0.000134	< 0.000108
	1,2,3,6,7,8-HxCDD	0.00134	< 0.00134	< 0.00108	0.1	< 0.000134	< 0.000108
	1,2,3,7,8,9-HxCDD	0.00134	< 0.00134	< 0.00108	0.1	< 0.000134	< 0.000108
	1,2,3,4,6,7,8-HpCDD	0.00134	0.00803	0.00645	0.01	0.0000803	0.0000646
	OCDD	0.00269	0.00874	0.00703	0.001	0.00000874	0.00000703
PCDFs	2,3,7,8-TeCDF	0.000269	< 0.000269	< 0.000216	0.1	< 0.0000269	< 0.0000216
	1,2,3,7,8-PeCDF	0.00134	< 0.00134	< 0.00108	0.05	< 0.0000670	< 0.0000539
	2,3,4,7,8-PeCDF	0.00134	< 0.00134	< 0.00108	0.5	< 0.000670	< 0.000539
	1,2,3,4,7,8-HxCDF	0.00134	0.00396	0.00319	0.1	0.000396	0.000318
	1,2,3,6,7,8-HxCDF	0.00134	0.00408	0.00328	0.1	0.000408	0.000328
	2,3,4,6,7,8-HxCDF	0.00134	0.00672	0.00541	0.1	0.000672	0.000540
	1,2,3,7,8,9-HxCDF	0.00134	< 0.00134	< 0.00108	0.1	< 0.000134	< 0.000108
	1,2,3,4,6,7,8-HpCDF	0.00134	0.0104	0.00836	0.01	0.000104	0.0000836
	1,2,3,4,7,8,9-HpCDF	0.00134	< 0.00134	< 0.00108	0.01	< 0.0000134	< 0.0000108
	OCDF	0.00269	< 0.00269	< 0.00216	0.001	< 0.00000269	< 0.00000216
Total ^{3/}						0.00167	0.00134

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