



ANNEX F1

CALIBRATION CERTIFICATES FOR  
SURFACE WATER QUALITY MONITORING  
EQUIPMENT



ALS Technichem (HK) Pty Ltd

11/F., Chung Shun Knitting Centre,

1 - 3 Wing Yip Street,

Kwai Chung, N.T., Hong Kong

T: +852 2610 1044

F: +852 2610 2021

www.alsglobal.com

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MR IVAN LEUNG  
**CLIENT:** ALS TECHNICHEM (HK) PTY LTD  
**ADDRESS:** 11/F., CHUNG SHUN KNITTING CENTRE,  
1-3 WING YIP STREET, KWAI CHUNG, N.T.

**WORK ORDER:** HK2410348  
**SUB-BATCH:** 0  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 15-Mar-2024  
**DATE OF ISSUE:** 20-Mar-2024

### GENERAL COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

This report superseded any previous report(s) with same work order number.

### EQUIPMENT INFORMATION

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.

Equipment Type: Multifunctional Meter

Service Nature: Performance Check

Scope: Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.: [HORIBA]/ [U-52G]

Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]

Date of Calibration: 19-March-2024

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

*This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.*

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2410348  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 20-Mar-2024  
**CLIENT:** ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [HORIBA]/ [U-52G]  
Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]  
Date of Calibration: 19-March-2024 Date of Next Calibration: 19-June-2024

## PARAMETERS:

### Conductivity

Method Ref: APHA (23rd edition), 2510B

Expected Reading ( $\mu\text{S}/\text{cm}$ )	Displayed Reading ( $\mu\text{S}/\text{cm}$ )	Tolerance (%)
146.9	151	+2.8
6667	6520	-2.2
12890	12500	-3.0
58670	53500	-8.8
	Tolerance Limit (%)	$\pm 10.0$

### Dissolved Oxygen

Method Ref: APHA (23rd edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.28	2.26	-0.02
5.88	5.82	-0.06
7.30	7.36	+0.06
	Tolerance Limit (mg/L)	$\pm 0.20$

### pH Value

Method Ref: APHA (23rd edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.92	-0.08
7.0	6.95	-0.05
10.0	10.03	+0.03
	Tolerance Limit (pH unit)	$\pm 0.20$

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2410348  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 20-Mar-2024  
**CLIENT:** ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [HORIBA]/ [U-52G]  
Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]  
Date of Calibration: 19-March-2024 Date of Next Calibration: 19-June-2024

## PARAMETERS:

### Turbidity

Method Ref: APHA (23rd edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.3	+7.5
40	38.0	-5.0
80	79.8	-0.3
400	376	-6.0
800	769	-3.9
	Tolerance Limit (%)	±10.0

### Salinity

Method Ref: APHA (23rd edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.34	-6.6
20	18.40	-8.0
30	27.47	-8.4
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2410348  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 20-Mar-2024  
**CLIENT:** ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [HORIBA]/ [U-52G]  
Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]  
Date of Calibration: 19-March-2024 Date of Next Calibration: 19-June-2024

## PARAMETERS:

### Temperature

**Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
9.0	10.61	+1.6
25.0	25.63	+0.6
44.0	43.62	-0.4
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics