

# **RoHS Test Report**

Report No. : AGC05443221119-001

**SAMPLE NAME**: Water powered bamboo LCD clock

MODEL NAME : MO6865

**APPLICANT**: MID OCEAN BRANDS B.V

**STANDARD(S)** : Please refer to the following page(s).

**DATE OF ISSUE** : Nov. 30, 2022

Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd.





Page 1 of 17

Pass

Applicant : MID OCEAN BRANDS B.V

Address : 7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong

Kong.

Test Site : 6/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community, Hangcheng

Street, Bao'an District, Shenzhen, Guangdong, China

### Report on the submitted sample(s) said to be:

Sample Name : Water powered bamboo LCD clock

Model : MO6865

Vendor code : 117486

Country of Origin : CHINA

Country of Destination : EUROPE

Sample Received Date : Nov. 16, 2022

Testing Period : Nov. 16, 2022 to Nov. 30, 2022

Test Requested : Selected test(s) as requested by client.

Test Requested: Conclusion

2011/65/EU (RoHS) and its amendment directive (EU) 2015/863

- Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs, DBP, BBP, DEHP, DIBP

- Formaldehyde Release Pass

Approved by: Jossie Liang

Liangdan, Jessie.Liang

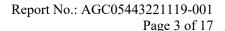
**Technical Director** 



Page 2 of 17

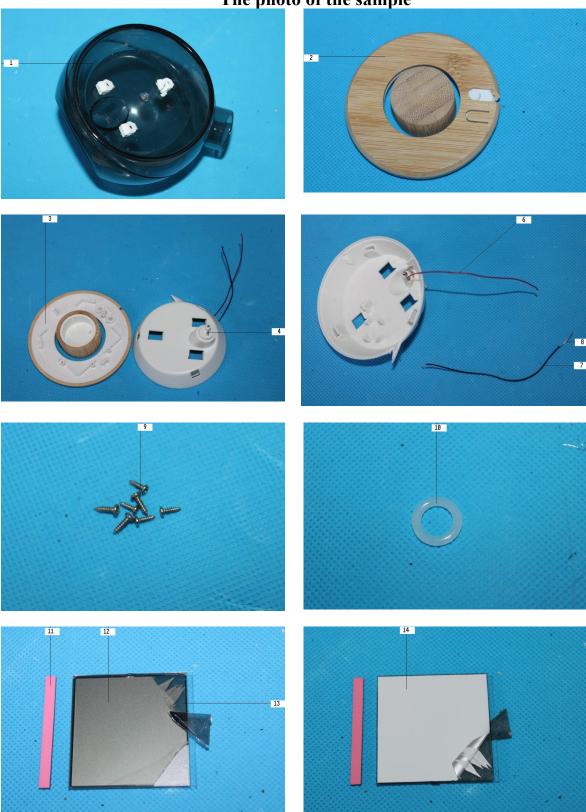
#### Report Revise Record

Report Version	Issued Date	Valid Version	Notes	
/	Nov. 30, 2022	Valid	Initial release	



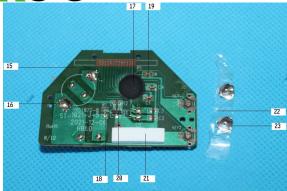


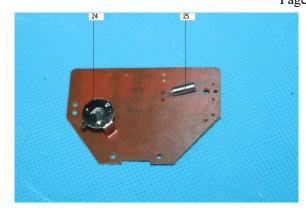
The photo of the sample

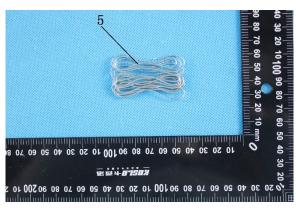


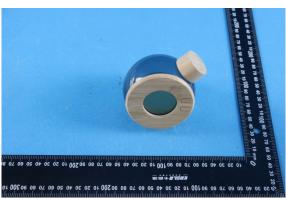
Report No.: AGC05443221119-001 Page 4 of 17

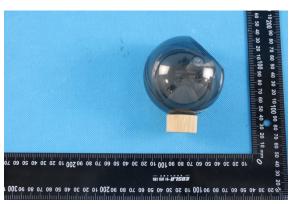




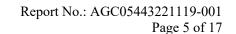








The photo of AGC05443221119-001 is for use only with the original report.





**Test Point Description** 

Test point	Test module	Test parts	Test point description
Water power	ered bamboo LCD	clock	
1			Ink transparent plastic cover
2		Outer shell	Wooden cover
3			White plastic shell
4			Sliver metal joint
5			Solder
6		Connector	Red wire jacket
7			Black wire jacket
8			Metal conductor
9			Sliver metal screw
10			Milk white sealing ring
11		Display panel	Red conductive tape
12			Polarizer
13			Glass of Display panel
14			White reflector
15			Green PCB
16			Solder
17			Black circular IC
18			Chip resistor
19			Chip capacitor
20		Circuit board	Chip triode
21			White foam
22			Transparent tape
23			Metal key shrapnel
24			Battery metal sheet
25			Crystal oscillator
2-1			Wooden cover

Note: "---" = The test point exists alone in the sample and is not attached to the test module or test parts.



Page 6 of 17

Note: N.D.=Not Detected (less than method detection limit), MDL = Method Detection Limit %= percentage (W/W)

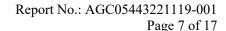
## 2011/65/EU (RoHS) and its amendment directive (EU) 2015/863

#### - Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs, DBP, BBP, DEHP, DIBP

Test Item	Test Method/ Instrument	MDL	Maximum Limit
Lead (Pb)		/	1000mg/kg
Cadmium (Cd)		/	100mg/kg
Mercury (Hg)	IEC 62321-3-1:2013/ XRF	/	1000mg/kg
Total Chromium		/	/
Total Bromine		/	/
Chemistry Method		<u> </u>	
Lead (Pb)	IEC 62321-5:2013/ ICP-OES	10mg/kg	1000mg/kg
Cadmium (Cd)	IEC 62321-5:2013/ ICP-OES	10mg/kg	100mg/kg
,	IEC 62321-4: 2013+A1:2017/		
Mercury (Hg)	ICP-OES	10mg/kg	1000mg/kg
Non-metal	IEC 62321-7-2:2017/ UV-Vis	8mg/kg	1000mg/kg
Hexavalent Chromium (Cr <sup>6+</sup> )	IEC 02321-7-2:2017/ UV-VIS	omg/kg	1000ilig/kg
Metal	IEC 62321-7-1:2015/ UV-Vis	$0.1 \mu g/cm^2$	/
Hexavalent Chromium (Cr <sup>6+</sup> ) Polybrominated Biphenyls (PBBs)	120 02021 / 112010/ 0 / 118	011 p.g. 0111	,
-Monobromobiphenyl (MonoBB) -Dibromobiphenyl (DiBB) -Tribromobiphenyl (TriBB) -Tetrabromobiphenyl (TetraBB) -Pentabromobiphenyl (PentaBB) -Hexabromobiphenyl (HexaBB) -Heptabromobiphenyl (HeptaBB) -Octabromobiphenyl (OctaBB) -Nonabromodiphenyl (NonaBB) -Decabromodiphenyl (DecaBB) PolybrominatedDiphenylethers (PBDEs)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum 1000mg/kg
-Monobromodiphenyl ether (MonoBDE) -Dibromodiphenyl ether (DiBDE) -Tribromodiphenyl ether (TriBDE) -Tetrabromodiphenyl ether (TetraBDE) -Pentabromodiphenyl ether (PentaBDE) -Hexabromodiphenyl ether (HexaBDE) -Heptabromodiphenyl ether (HeptaBDE) -Octabromodiphenyl ether (OctaBDE) -Nonabromodiphenyl ether (NonaBDE) -Decabromodiphenyl ether (DecaBDE)	IEC 62321-6:2015/ GC-MS	Single 5mg/kg	Sum 1000mg/kg
Di-iso-butyl phthalate (DIBP)		50mg/kg	1000mg/kg
Dibutyl phthalate (DBP)		50mg/kg	1000mg/kg
Butylbenzyl phthalate (BBP)	IEC 62321-8:2017/ GC-MS	50mg/kg	1000mg/kg
Di-(2-ethylhexyl) Phthalate (DEHP)	-	50mg/kg	1000mg/kg

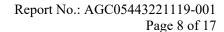
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Testing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc01@agccert.com.

Tel: +86-755 2523 4088 E-mail: agc@agccert.com Web: http://www.agccert.com/



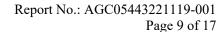


X-ray Fluorescence Wet Chemistry **Test point Test Item** Spectrometry (XRF) Method Conclusion mg/kg mg/kg Pb BLCd BLBLHg  $Cr(Cr^{6+})$ BL**PBBs** 1 BLConformity Br **PBDEs** DIBP N/A N.D. **DBP** N/A N.D. **BBP** N/A N.D. **DEHP** N/A N.D. Pb BL/ CdBLBLHg  $Cr(Cr^{6+})$ BL/ **PBBs** BL2 Br Conformity **PBDEs DIBP** N.D. N/A **DBP** N/A N.D. BBP N/A N.D. **DEHP** N/A N.D. Pb BLCdBLHg BL $Cr(Cr^{6+})$ BL/ **PBBs** 3 BLConformity Br **PBDEs** DIBP N/A N.D. **DBP** N/A N.D. **BBP** N/A N.D. **DEHP** N/A N.D. Pb BLCd BL/ BLHg  $Cr(Cr^{6+})$ IN N.D. **PBBs** / 4 Br N/A Conformity **PBDEs** N/A DIBP **DBP** N/A **BBP** N/A **DEHP** N/A



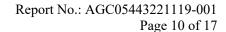


Test point	Test Item		X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion	
	Pb		BL	/		
		Cd	BL	/		
		Hg	BL	/		
	Cr	(Cr <sup>6+</sup> )	BL	/		
5	Br	PBBs PBDEs	N/A	/	Conformity	
	D	IBP	N/A	/		
	Γ	)BP	N/A	/		
		BBP	N/A	/		
	D	ЕНР	N/A	/		
		Pb	BL	/		
		Cd	BL	/		
		Hg	BL	/		
		$(Cr^{6+})$	BL	/		
6	Br	PBBs PBDEs	BL	/	Conformity	
	DIBP		N/A	N.D.		
	DBP		N/A	N.D.		
	BBP		N/A	N.D.		
	DEHP		N/A	N.D.		
		Pb	BL	/		
		Cd	BL	/		
	Hg		BL	/		
		(Cr <sup>6+</sup> )	BL	/		
7	Br	PBBs PBDEs	BL	/	Conformity	
	D	IBP	N/A	N.D.		
		)BP	N/A	253		
		BBP	N/A	N.D.		
		EHP	N/A	N.D.		
		Pb	BL	/		
		Cd	BL	/		
		Hg	BL	/		
			BL	/		
8	Cr(Cr <sup>6+</sup> )  Br PBBs		N/A	/	Conformity	
		PBDEs	NT/A	/	,	
		IBP	N/A	/		
		)BP	N/A	/		
		BBP	N/A	/		
	DEHP		N/A	/		



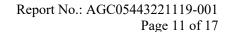


Test point	Test Item		X-ray Fluorescence Spectrometry (XRF)	Wet Chemistry Method	Conclusion	
1 est point	168	t tuill	mg/kg	mg/kg	Conclusion	
	Pb		BL	/		
		Cd	BL	/		
		Hg	BL	/		
		(Cr <sup>6+</sup> )	BL	/		
9	Br	PBBs PBDEs	N/A	/	Conformity	
	Γ	OIBP	N/A	/		
		)BP	N/A	/		
		BBP	N/A	/		
		EHP	N/A	/		
		Pb	BL	/		
		Cd	BL	/		
-		Hg	BL	/		
		$(Cr^{6+})$	BL	/		
	CI	PBBs	DL	/	Conformity	
10	Br	PBDEs	BL	/		
	DIBP		N/A	N.D.		
	DBP		N/A	N.D.		
	BBP		N/A	N.D.		
	DEHP		N/A	N.D.		
		Pb	BL	/		
	Cd		BL	/		
	Hg		BL	/		
	Cr(Cr <sup>6+</sup> )		BL	/		
	Br	PBBs	BL	/		
11		PBDEs		/	Conformity	
	Г	OIBP	N/A	N.D.		
		)BP	N/A	N.D.		
		BBP	N/A	N.D.		
		EHP	N/A	N.D.		
		Pb	BL	/ /		
		Cd	BL	/		
		Hg	BL	/		
		$(Cr^{6+})$	BL	/		
		PBBs	DL	/		
12	l Rr	PBDEs	BL	/	Conformity	
	Г	IBP	N/A	N.D.		
		)BP	N/A	N.D.		
		овг ЗВР	N/A	N.D.		
	<u>ا</u>	EHP	N/A	N.D.		



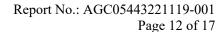


Test point	Test Item		X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion	
	Pb		BL	/		
		Cd Cd	BL	/		
	]	Hg	BL	/		
		Cr <sup>6+</sup> )	BL	/		
13	Br	PBBs PBDEs	BL	/	Conformity	
	D	IBP	N/A	N.D.		
		BP	N/A	N.D.		
		BP	N/A	N.D.		
		EHP	N/A	N.D.		
		Pb	BL	/		
		Cd	BL	/		
		Hg	BL	/		
		Cr <sup>6+</sup> )	BL	/		
		PBBs	D.1	/		
14	Br	PBDEs	- BL	/	Conformity	
	DIBP		N/A	N.D.		
	DBP		N/A	N.D.		
	BBP		N/A	N.D.		
	D:	ЕНР	N/A	N.D.		
	Pb		BL	/		
	Cd		BL	/		
	Hg		BL	/		
	$Cr(Cr^{6+})$		BL	/		
15	Br	PBBs PBDEs	BL	/	Conformity	
	D	IBP	N/A	N.D.		
	Γ	BP	N/A	N.D.		
	Е	BP	N/A	N.D.		
	D:	ЕНР	N/A	N.D.		
		Pb	BL	/		
		Cd	BL	/		
		Hg	BL	/		
	Cr(	Cr <sup>6+</sup> )	BL	/		
16	Br	PBBs PBDEs	N/A	/	Conformity	
	D	IBP	N/A	/		
		BP	N/A	/		
		BP	N/A	/		
		ЕНР	N/A	/		



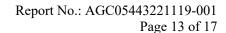


Test point	Test Item		X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion
	Pb		BL	/	
	(	Cd	BL	/	
	I	Hg	BL	/	
	Cr(	Cr <sup>6+</sup> )	BL	/	
17	Br	PBBs PBDEs	BL	/	Conformity
	D.	IBP	N/A	N.D.	
		BP	N/A	N.D.	
	В	BP	N/A	N.D.	
	DI	ЕНР	N/A	N.D.	
	]	Pb	BL	/	
	(	Cd	BL	/	
	I	Hg	BL	/	
	Cr(	Cr <sup>6+</sup> )	BL	/	
1.0	D	PBBs	DI	/	Conformity
18	8 Br	PBDEs	BL	/	
	DIBP		N/A	N.D.	
	D	BP	N/A	N.D.	
	BBP		N/A	N.D.	
	DI	ЕНР	N/A	N.D.	
	]	Pb	BL	/	
	Cd		BL	/	
	Hg		BL	/	
	Cr(Cr <sup>6+</sup> )		BL	/	
19	Br	PBBs PBDEs	BL	/	Conformity
	D	IBP	N/A	N.D.	
	D	BP	N/A	N.D.	
	В	BP	N/A	N.D.	
	DI	ЕНР	N/A	N.D.	
	]	Pb	BL	/	
	(	Cd	BL	/	
	I	Hg	BL	/	
	Cr(	Cr <sup>6+</sup> )	BL	/	
20	Br PBBs PBDEs		BL	/	Conformity
	D	IBP	N/A	N.D.	
		BP	N/A	N.D.	
	В	BP	N/A	N.D.	
	DI	ЕНР	N/A	N.D.	





Test point	Test Item		X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion	
	Pb		BL	/		
	(	Cd	BL	/		
	I	Hg	BL	/		
	Cr(	Cr <sup>6+</sup> )	BL	/		
21	Br	PBBs PBDEs	- BL	/	Conformity	
	D:	IBP	N/A	N.D.		
	D	BP	N/A	N.D.		
-	В	BP	N/A	N.D.		
-	DI	ЕНР	N/A	N.D.		
	]	Pb	BL	/		
-	(	Cd	BL	/		
		Hg	BL	/		
-		<u>S</u> Cr <sup>6+</sup> )	BL	/		
22	Br	PBBs PBDEs	- BL	/	Conformity	
-	DIBP		N/A	N.D.		
-	DBP		N/A	N.D.		
-	BBP		N/A	N.D.		
-	DEHP		N/A	N.D.		
	Pb		BL	/	-	
-	Cd		BL	/		
-	Hg		BL	/		
-		Cr <sup>6+</sup> )	IN	N.D.		
23	Br	PBBs PBDEs	N/A	/	Conformity	
-	D	IBP	N/A	/		
-	D	BP	N/A	/		
-		BP	N/A	/		
-		ЕНР	N/A	/		
		Pb	BL	/		
		Cd	BL	/		
		Hg	BL	/		
		Cr <sup>6+</sup> )	BL	/		
24	Br PBBs PBDEs		N/A	/	Conformity	
	D.	IBP	N/A	/		
		BP	N/A	/		
		BP	N/A	/		
		ЕНР	N/A	/		





Test point	Tes	t Item	X-ray Fluorescence Spectrometry (XRF) mg/kg	Wet Chemistry Method mg/kg	Conclusion
		Pb	BL	/	
		Cd	BL	/	
		Hg	BL	/	
	Cr(Cr <sup>6+</sup> )		BL	/	
25	D.,	PBBs	- BL	/	Conformity
23	Br	PBDEs		/	Conformity
	Ε	OIBP	N/A	N.D.	
	I	)BP	N/A	N.D.	
	I	3BP	N/A	N.D.	
	D	ЕНР	N/A	N.D.	

Test result on specimen No.5 was resubmitted on Nov.28, 2022.



Report No.: AGC05443221119-001 Page 14 of 17

Element	Unit	Non-metal	Metal	Composite Material
Cd	mg/kg	BL≤70-3σ <x &lt;130+3σ≤OL</x 	BL≤70-3σ <x &lt;130+3σ≤OL</x 	BL≤50-3σ <x &lt;150+3σ≤OL</x 
Pb	mg/kg	BL≤700-3σ <x &lt;1300+3σ≤OL</x 	BL≤700-3σ <x &lt;1300+3σ≤OL</x 	BL≤500-3σ <x &lt;1500+3σ≤OL</x 
Hg	mg/kg	BL≤700-3σ <x &lt;1300+3σ≤OL</x 	BL≤700-3σ <x &lt;1300+3σ≤OL</x 	BL≤500-3σ <x &lt;1500+3σ≤OL</x 
Cr	mg/kg	BL≤700-3σ <x< td=""><td>BL≤700-3σ<x< td=""><td>BL≤500-3σ<x< td=""></x<></td></x<></td></x<>	BL≤700-3σ <x< td=""><td>BL≤500-3σ<x< td=""></x<></td></x<>	BL≤500-3σ <x< td=""></x<>
Br	mg/kg	BL≤300-3σ <x< td=""><td>N/A</td><td>BL≤250-3σ<x< td=""></x<></td></x<>	N/A	BL≤250-3σ <x< td=""></x<>

#### Remark:

- (1) BL= Below Limit, OL= Over limited, IN = Inconclusive, Scanning by XRF and detected by chemical method, N/A = Not applicable.
- (2) Results were obtained by XRF for primary scanning, and further chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) are recommended to be performed, if the concentration exceeds the above warning value.
- (3) The XRF scanning test for RoHS elements The reading may be different to the actual content in the sample be of non-uniformity composition.
- (4) Boiling-water-extraction:(X represents the results of the tested sample)

Number	Colorimetric result (Cr(VI) concentration)	Judgement
1	$X < 0.1 \mu g/cm^2$	Negative
2	$0.1 \mu g/cm^2 \le X \le 0.13 \mu g/cm^2$	Uncertainty
3	$X > 0.13 \mu g/cm^2$	Positive

Negative indicates the absence of Cr(VI) on the tested areas concentration is below the limit of quantification. The coating is considered a non-Cr(VI) based coating.

Uncertainty indicates the absence of Cr(VI) on the tested areas unavoidable coating variations may influence the determination.

Positive indicates the presence of Cr(VI) on the tested areas concentration is above the limit of quantification and the statistical margin of error. The sample coating is considered to contain Cr(VI).

Storage conditions and production date of the tested sample are unavailable and thus result of Cr(VI) represent status of the sample at the time of testing.

(5) Disclaimers: This XRF Scanning report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF screening report is sufficient for its/his/her purposes.

The result shown in this XRF scanning report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis are required to obtain quantitative data.

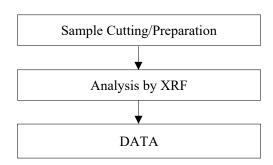


Page 15 of 17

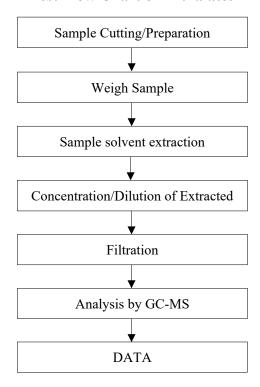
Test Methods and Equipment: EN 717-3:1996; UV-Vis

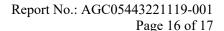
Test Item(s)	Unit	Client's limit	MDL	Test Result(s)
1 est item(s)	Cint	Chent's inint	1,11212	2-1
Formaldehyde Release	mg/kg	80	1	1
Co	Conformity			

#### **Test Flow Chart of XRF**



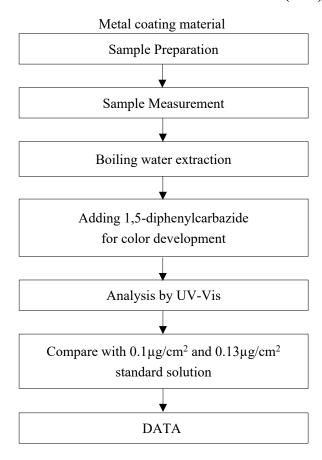
#### **Test Flow Chart of Phthalates**

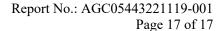






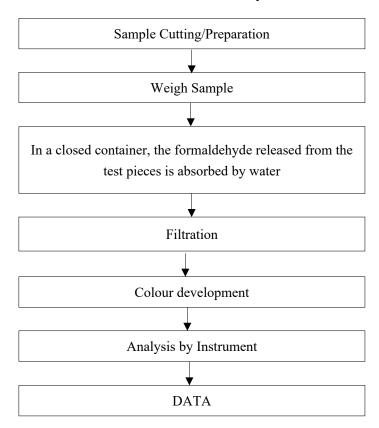
## Test Flow Chart of Hexavalent Chromium (Cr6+)







# **Test Flow Chart of Formaldehyde Release**





# Conditions of Issuance of Test Reports

- 1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Std & Tech Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
- 2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
- 3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
- 4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
- 5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
- 6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
- 7. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
- 8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
- 9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

\*\*\* End of Report \*\*\*