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No. : HC229884

Applicant(Code:MAT020): Mayu Technology Group Co Ltd

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**Description of Sample(s)**: One submitted sample said to be AOK Portable Alkaline Ionizer.

Country of Origin: China

Date Sample(s) Received : 2009-04-14

**Date Tested** : 2009-04-15 to 2009-04-23

**Investigation Requested**: Refer to the next page.

The tested Extractable Heavy Metal of the submitted sample Conclusion(s)

> were found **complied** respective requirement(s) for the tested item(s) as stated in the German Food & Feed Acts LFGB and Regulation (EC) No. 1935/2004 (Material in contact with food

regulation).

The tested dionized water of the submitted sample **passed** the World Health Organization (WHO) Guidelines for Drinking

Water Quality.

There was no significant change in Aluminium, Calcium, Iron, Potassium and Zinc in the tap water and the treated tap water which was stored in "AOK Portable Alkaline Ionizer" for 10 minutes. Magnesium content of the treated tap water increased

from 2.1 mg/L to 4.7 mg/L.

pH of the treated tap water turned slightly alkaline when

comparing to the original tap water.

Remark(s) : The "AOK Portable Alkaline Ionizer" sample was activated by

filling in 60°C hot water for 2 minutes and then rinsed 3 times by

hot water before test.



Chemical and Food Department For and on behalf of

The Hong Kong Standards and Testing Centre Ltd.



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#### **Investigation Requested:**

For "AOK Portable Alkaline Ionizer":

- 1. For material: metal or metallic coating, except aluminium
  - Extractable Heavy Metal (Lead, Cadmium, Chromium (VI) and Nickel).

For the dionized water which was stored in the "AOK Portable Alkaline Ionizer" for 10 minutes:

- 2. Color
- 3. Turbidity
- 4. Ammonia content
- 5. Chloride content
- 6. Copper content
- 7. Sodium content
- 8. Sulphate content

Comparison between tap water and tap water which was stored in the "AOK Portable Alkaline Ionizer" for 10 minutes:

- 9. Aluminium content
- 10. Calcium content
- 11. Iron content
- 12. Magnesium content
- 13. Potassium content
- 14. Zinc content
- 15. pH value (at 25°C)

#### Method(s) Used:

- 1. The sample was filled with distilled water at 100°C for 24 hours. The heavy metal content of extracting solution was then analysed using Atomic Absorption Spectrometry (AAS) and/or Inductively Coupled Plasma Spectrometry Optical Emission Spectrometry (ICP-OES)
- Ref. APHA 18<sup>th</sup> Ed 2120 C & HACH Colorimetric Method
  Ref. APHA 18<sup>th</sup> Ed 2130 B
  Ref. APHA 20<sup>th</sup> Ed 4500-NH<sub>3</sub> B & C

- 5. Ref. APHA 20<sup>th</sup> Ed 4500-Cl<sup>-</sup> B
- 6-7: Inductively Coupled Plasma Atomic Emission Spectrophotometry
- 8. Ref. APHA 19<sup>th</sup> Ed 4500-SO<sub>4</sub><sup>2</sup>·E 9-14: Inductively Coupled Plasma Atomic Emission Spectrophotometry
- 15. Ref. APHA 20<sup>th</sup> Ed 4500-H<sup>+</sup> B



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#### **Test Result(s):**

#### 1. Extractable Heavy Metal

Test Item(s)	"AOK Portable Alkaline Ionizer"	Maximum Permissible Limit*
Extractable Lead	<0.005 mg/dm <sup>2</sup>	$0.01 \text{ mg/dm}^2$
Extractable Cadmium	$<0.005 \text{ mg/ dm}^2$	$0.005 \text{ mg/dm}^2$
Extractable Chromium (VI)	$< 0.003 \text{ mg/ dm}^2$	$0.45 \text{ mg/ dm}^2$
Extractable Nickel	$< 0.005 \text{ mg/ dm}^2$	$0.1 \text{ mg/ dm}^2$

<sup>\*</sup>The specification was quoted from German drink water norm "Trinkwasserverordnung"

#### For the dionized water which was stored in the "AOK Portable Alkaline Ionizer" for 10 minutes

Test Item(s)		Result	WHO Guidelines#
2.	Color	4 TCU	<15 TCU
3.	Turbidity	1.5 NTU	<5 NTU
4.	Ammonia content	<1 mg/L	<1.5 mg/L
5.	Chloride content	<5 mg/L	<250 mg/L
6.	Copper content	<0.1 mg/L	<1 mg/L
7.	Sodium content	<1 mg/L	<200 mg/L
8.	Sulphate content	11 mg/L	<250 mg/L

<sup>#</sup> Guidelines for Drinking Water Quality, Second Edition, Volume 2 Health criteria and other supporting information, 1996 (pp.940-949 and Addendum to Vol. 2. 1998 (pp. 281-283)



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# Comparison between tap water and tap water which was stored in the "AOK Portable Alkaline Ionizer" for 10 minutes

Test Item(s)	Tap Water	Treated Tap Water
9. Aluminium content	<0.1 mg/L	<0.1 mg/L
10. Calcium content	19 mg/L	20 mg/L
11. Iron content	<0.1 mg/L	<0.1 mg/L
12. Magnesium content	2.1 mg/L	4.7 mg/L
13. Potassium content	4.0 mg/L	4.0 mg/L
14. Zinc content	<0.1 mg/L	<0.1 mg/L
15. pH value (at 25°C)	8.3	9.4

Note: < denotes less than

mg/dm² denotes milligram per square decimeter

mg/L denotes milligram per Liter

#### Photo(s):



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