



Organic Waste Systems

FINAL REPORT

MATERIAL CHARACTERISTICS

OF

EATWARE[®] FOOD CONTAINER

STUDY RTS-2/1&6

**EATware International Limited
23/F, Westin Center, 26 Hung To Road
Kwung Tong
HONG KONG**

O.W.S.

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MATERIAL CHARACTERISTICS

1. VOLATILE SOLIDS CONTENT

The volatile solids content of material EATware® Food Container is 98.9% on total solids (TS), which is well above the minimum volatile solids content of 50% on TS as required by CEN norm EN 13432 (2000) 'Requirements for packaging recoverable through composting and biodegradation - Test scheme and evaluation criteria for the final acceptance of packaging'.

2. HEAVY METAL ANALYSIS

The heavy metal content of material EATware® Food Container is given in Table 1, together with the limit values as prescribed by CEN norm EN 13432, ASTM D 6868-03 'Standard Specification for Biodegradable Plastics Used as Coatings on Paper and Other Compostable Substrates' and BNQ Draft Protocol P 9011-911-5 'Compostable Plastic Bags' (Canada). All values lay well below the prescribed maximum levels.

The heavy metals Zinc (Zn), Copper (Cu), Nickel (Ni), Cadmium (Cd), Lead (Pb), Molybdenum (Mo), Chromium (Cr) and Arsenic (As) were determined by ICP-AES (inductively coupled plasma – atomic emission spectrometry) after digestion with aqua regia (NEN 6465). The same digestion method was used for Mercury (Hg), followed by CVAAS (cold vapor atomic absorption spectrometry). The Selenium (Se) content was analyzed by atomic absorption spectrometry after acid digestion, while the Fluorine (F) content was determined potentiometrically after bomb destruction (NEN 6483). Cobalt (Co) was determined by ICP-OES (Inductively Coupled Plasma – Optical Emission Spectrometry) after microwave destruction.

Table 1. Heavy metal content.

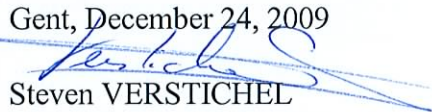
Metal	CEN norm ppm (on TS)*	ASTM norm** ppm (on TS)	Limits Canada*** ppm (on TS)	Test item ppm (on TS)
Zn	< 150	< 1400	< 463	96
Cu	< 50	< 750	< 189	2
Ni	< 25	< 210	< 45	1.6
Cd	< 0.5	< 19.5	< 5	< 0.1
Pb	< 50	< 150	< 125	1
Hg	< 0.5	< 8.5	< 1	< 0.1
Cr	< 50	-	< 265	2
Mo	< 1	-	< 5	< 1
Se	< 0.75	< 50	< 4	< 0.1
As	< 5	< 21.5	< 19	< 1
F	< 100	-	-	< 27
Co	-	-	< 38	< 2

* TS = Total Solids.

** Maximum levels for USA (according to ASTM D 6868-03 heavy metal content must be less than 50% of those prescribed for sludges or composts in the country where the product is sold).

*** Metal limits for Canada are derived from BNQ Draft Protocol P 9011-911-5, published May, 2007.

Gent, December 24, 2009


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