

Test Report

No. SH7030447/CHEM

Date: Apr. 2, 2007

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HIGHEL HOLDINGS LTD
880-10, HWAGOK-DONG, GANGSEO-GU, SEOUL, KOREA

The following sample(s) were submitted and identified by/on behalf of the client as:

Sample Name : FOOD CONTAINERS
SGS Ref No. : SHD2702810
Item No : VS2N21/VVS2N22/ VS2N23/ VS2N31/ VS2N32/ VS2N33/ VS2N41/ VS2N42
/VS2N43
Manufacturer : NINGBO TOPSTAR HOUSEHOLD COMMODITY CO., LTD

Sample Receiving Date : Mar.28, 2007
Testing Period : Mar.28 -Apr.02, 2007

Test Requested : In accordance with German Food, Articles of Daily Use and Feed Code of
September 1, 2005 (LFGB), Section 30 and 31, European Commission Directive
2002/72/EC and BfR recommendation
1) Sensorial examination odour and taste test.
2) For material: PP -Overall migration test.
3) For material: PP-Catalyst residue, a) Chromium, b) Vanadium and Zirconium
content.
4) For material: silicone rubber – Extractable component.
5) For material: silicone rubber – Volatile organic matter (VOM).
6) For material: silicone rubber -Peroxide value.
7) For material: silicone rubber – Organic content (Monobutyltin, Dibutyltin,
Tributyltin, Tetrabutyltin, Triphenyltin, Mono-octyltin, Di-octyltin).

Test Method /Test Results : Please refer to next page.

Conclusion : When tested as specified, the submitted samples comply with the permissible safety
limit as specified in LFGB, Section 30 and 31.

Signed for and on behalf of
SGS-CSTC Chemical Laboratory

Ella Zhang
Sr. Section Head

Signed for and on behalf of
SGS-CSTC Chemical Laboratory

Sandy Hao
Lab Manager

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Test Method

- 1) Robinson's test with reference to DIN 10955:1983 (2003)
- 2) With reference to EN1186-1:2002 for selection of conditions and test methods; EN1186-3:2002 aqueous food simulants by total immersion method; EN1186-2:2002 olive oil by total immersion method;
- 3) a) Sample Preparation in distilled water at 100°C for 2 hours, with reference to EN1186-1 : 2002, followed by analysis using Inductively Coupled Argon Plasma Spectrometry.
b) Acid digestion, followed by analysis using Inductively Coupled Argon Plasma Spectrometry.
- 4) With reference to 61st Communication on testing of plastics in Bundesgesundheitsbl 46 (2003) 362.
- 5) With reference to LFGB BfR Part B Part II Section XV, May 2003 and LFGB section 35 B80.30 1(EG).
Test condition: 100°C, 2 hours.
- 6) With reference to European Pharmacopoeia, 1997, p.173
- 7) Solvent extraction followed by analysis using Gas Chromatography Spectrometry

Test Results

1) Sensorial examination odour and taste test

Test Items	Result	Maximum Permissible Limit
	Food containers	
Sensorial examination odour (Point scale)	0	2.5
Sensorial examination taste (Point scale)	0	2.5

2) Overall migration test

Simulant used	Test condition	Overall Migration (mg/dm ²)	Maximum permissible Limit (mg/dm ²)
		1	
3% Acetic Acid (W/V) Aqueous Solution	24 hours at 40°C	<3.0	10
Rectified Olive Oil	24 hours at 40°C	4.2	10

Simulant used	Test condition	Overall Migration (mg/kg)	Maximum permissible Limit (mg/kg)
		2	
3% Acetic Acid (W/V) Aqueous Solution	24 hours at 40°C	<10	60
Rectified Olive Oil	24 hours at 40°C	14	60

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3) Chromium, Vanadium and Zirconium content

Test Items	Result (mg/kg)		Maximum Permissible Limit (mg/kg)
	1	2	
Extractable Chromium	<0.05	<0.05	0.05
Total Vanadium	<20	<20	20
Total Zirconium	<20	<20	100

4) Extractable component test

Simulant Used	Extractable Components (%w/w)	Maximum Permissible Limit (%w/w)
	3	
3% Acetic Acid (w/v) Aqueous Solution	0.1	0.5

Note: %w/w =percentage of weight by weight

5) Volatile organic matter (VOM)

Test Items	Result (% w/w)	Maximum Permissible Limit (% w/w)
	3	
Volatile organic matter (VOM)	<0.05	0.5

Note: %w/w =percentage of weight by weight

6) Peroxide Value

Test Items	Result (mg/kg)	Maximum Permissible Limit (mg/kg)
	3	
Peroxide Value	Absent	Absent

Note: mg/kg=milligram per kilogram

7) Organtin content (Monobutyltin, Dibutyltin, Tributyltin, Tetrabutyltin, Triphenyltin, Mono-octyltin, Di-octyltin)

Test Items	Result (mg/kg)	Maximum Permissible Limit (mg/kg)
	3	
a) Monobutyl tin (MBT)	Absent	Absent
b) Dibutyl tin (DBT)	Absent	Absent
c) Tetrabutyl (TBT)	Absent	Absent
d) Tetrabutyltin (TeBT)	Absent	Absent
e) Triphenyl tin (TPT)	Absent	Absent
f) Mono-octyl tin (MOT)	Absent	Absent
g) Dioctyl tin (DOT)	Absent	Absent

Note: Detection Limit is 0.02 mg/kg

Test Part Description:

1. White plastic box
2. White plastic box
3. Blue silicon rubber valve

- Note:
1. mg/dm² =milligram per square decimeter
 2. <= less than
 3. %w/w =percentage of weight by weight
 4. mg/kg = milligram per kilogram
 5. °C = Degree Celsius

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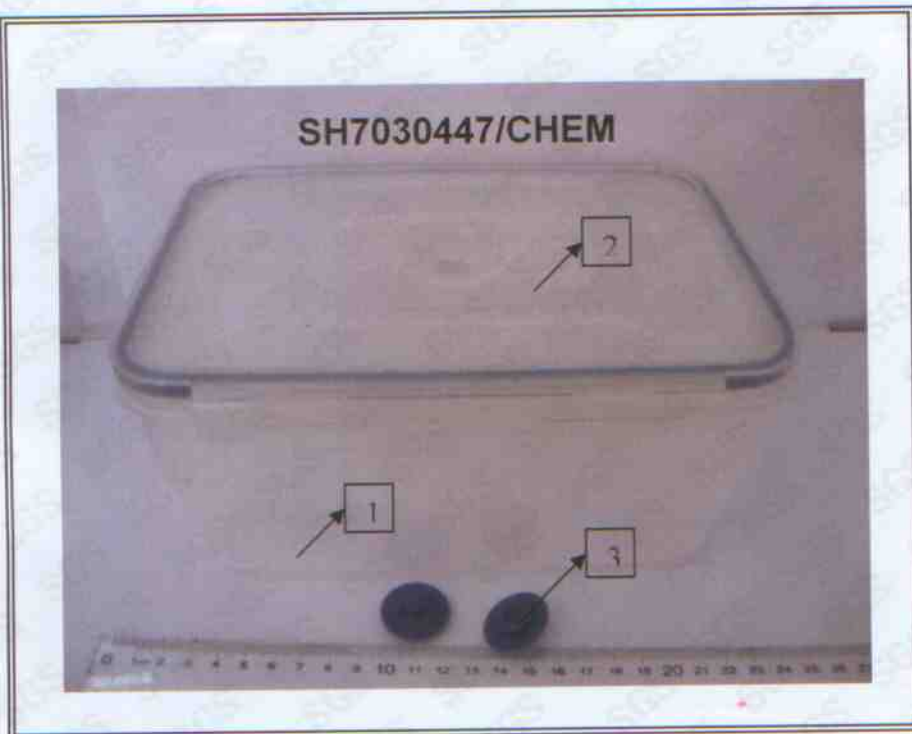
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Sample Photo:



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