

## Test Report

Number: SZHH01389230

Applicant: KOOPMAN INTERNATIONAL B.V  
DISTELWEG 88 AMSTERDAM, THE  
NETHERLANDS

Date: Aug 22, 2019

Attn: QUALITY CONTROL

### Sample Description:

One (1) group of submitted sample said to be :

Item Name : **FRYING / COOKING PANS**  
Item No. : **309180370 309180380 309180390 309180400 309180410 309180420**  
**309180430**  
Material : Non-stick coating (silicone resin), Glass (lid)  
Date Sample Received : Aug 06, 2019 & Aug 16, 2019.  
Testing Period : Aug 06, 2019 ~ Aug 22, 2019.



### Tests conducted:

As requested by the applicant, refer to attached page(s) for details.



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Conclusion:

Tested Samples  
Tested components of  
submitted sample

Client's requirement on

- Sensory test
- Overall migration
- Specific migration of Primary Aromatic Amines
- Specific migration of Formaldehyde
- Heavy metal migration on glass
- Specific migration of phthalate and plasticiser
- Phthalate and okasticiser content
- Determination of heavy metal release on metal
- Short Chain Chlorinated Paraffins(C10-C13) (SCCP) content
- Dimethyl fumarate (DMF) content
- GC screening on phenolic compounds

Result

- Pass
- Pass
- Pass
- Pass
- Pass
- Pass
- Pass
- Pass
- Pass
- Pass
- Pass

Authorized by:  
For Intertek Testing Services  
Shenzhen Ltd.



Ben N.L. Lin  
General Manager



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Tests Conducted

1 Sensory Evaluation

With reference to DIN 10955:2004.

Test Procedure:

Sample was cleaned according to the product's instruction manual or in the absence of such manual, with water. Food simulant was filled in the sample under below mentioned time and temperature. Odour and off-flavour was evaluated with 6 panelists using control sample of food simulant.

I. Test condition:

Water 100°C 2hours

II. Result:

Test Item	Result		Limit
	(1)	(3)	
Intensity of odour	0.5	0	2.5
Intensity of off- flavour	0.5	0	2.5

Intensity Scale: 0 = No discernible deviation  
1 = Barely discernible deviation  
2 = Weak deviation  
3 = Clear deviation  
4 = Strong deviation

Tested component: See component list in the last section of this report.

2 Overall Migration Test

With reference to Commission Regulation (EU) No. 10/2011 and its amendments.

I. Test condition:

Tested component	Food simulant	Temperature (°C)	Time(hours)
(1)	10% (v/v) Ethanol	100	2
	3% (w/v) Acetic acid	100	2
	95%(v/v) Ethanol	60	3.5
	Iso -octane	60	1.5



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II. Test Results :

Food Simulant	Result(mg/dm <sup>2</sup> )	Reporting Limit (mg/dm <sup>2</sup> )	Limit (mg/dm <sup>2</sup> )
	(1)		
10% (v/v) Ethanol	1	1	10
3% (w/v) Acetic acid	1	1	10
95%(v/v) Ethanol	ND	1	10
Iso -octane	ND	1	10

ND = Not detected

Tested components: See component list in last section of this report.

3 Specific Migration of Primary Aromatic Amines

As per Commission Regulation (EU) No. 10/2011 and JRC Technical Guidelines EN24815 EN2011.

I. Test condition:

Tested component	Food simulant	Temperature(°C)	Time (hours)
(1)	3% (w/v) Acetic acid	100	2

II. Test result:

Tested component	Result(mg/kg)	Reporting limit(mg/kg)	Limit(mg/kg)
(1)	ND	0.01	ND

ND= Not detected (less than reporting limit)

Ratio of food contact surface area to volume used for the testing: 1dm<sup>2</sup>: 318ml

Tested components: See component list in last section of the report.

4 Specific Migration of Formaldehyde

With reference to Commission Regulation (EU) No. 10/2011 and JRC Technical Guidelines EUR 24815 EN 2011 by total immersion / article filling.

I. Test condition :

Tested component	Food simulant	Time (hour)	Temperature(°C)
(1)	3% (w/v) Acetic acid	2	70



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II. Test result :

Food simulant	Result(mg/kg)	Reporting Limit (mg/kg)	Limit (mg/kg)
	(1)		
3% (w/v) Acetic acid	ND	5	15

ND = Not detected(less than reporting limit)

Remark: Ratio of food contact surface area to volume used for the testing : 1dm<sup>2</sup>: 318ml

5 Phenolic Compounds Screening

By Gas Chromatography-Mass Spectrometric (GC-MS) analysis.

I. Test condition:

Food simulant	Temperature(°C)	Time (hours)
95%(v/v) ethanol	60	3.5

II. Result:

Tested Component	Phenolic compounds	Limit
(1)	Absent	No phenolic compounds detectable

Absent = No phenolic compounds were found

Tested Components: See component list in last section of this report.



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6 Metal Migration

With reference to EU Technical Guide “Council of Europe Resolution CM/Res(2013)9 on metals and alloys Used in Food Contact Materials and Articles”. Migration test was carried out and heavy metal content was determined by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Inductively Coupled Plasma Mass Spectrometer (ICP-MS) with reference to ISO 11885:2007 and ISO 17294-2:2003 respectively.

I. Test Condition:

Food Simulant : Citric acid (5 g/L)

Temperature: 100°C

Time: 2hours

II. Test Result:

Tested component (1) :							
Elements	Result 1 <sup>st</sup> test (mg/kg)	Result 2 <sup>nd</sup> test (mg/kg)	Result 1 <sup>st</sup> test+Result 2 <sup>nd</sup> test (mg/kg)	Result 3 <sup>rd</sup> test (mg/kg)	Reporting Limit (mg/kg)	7*Limit (mg/kg)	Limit (mg/kg)
Silver (Ag)	ND	ND	ND	ND	0.05	0.56	0.08
Aluminium (Al)	ND	ND	ND	ND	0.05	7	1
Chromium (Cr)	ND	ND	ND	ND	0.02	0.7	0.1
Cobalt (Co)	ND	ND	ND	ND	0.01	0.14	0.02
Copper (Cu)	ND	ND	ND	ND	0.5	28	4
Iron (Fe)	ND	ND	ND	ND	1	280	40
Manganese (Mn)	ND	ND	ND	ND	0.05	0.7	0.1
Molybdenum(Mo)	ND	ND	ND	ND	0.02	0.84	0.12
Nickel (Ni)	ND	ND	ND	ND	0.01	0.14	0.02
Tin (Sn)	ND	ND	ND	ND	10	700	100
Vanadium (V)	ND	ND	ND	ND	0.005	0.07	0.01
Zinc (Zn)	ND	ND	ND	ND	1	35	5
Antimony (Sb)	ND	ND	ND	ND	0.01	0.28	0.04
Arsenic (As)	ND	ND	ND	ND	0.001	0.014	0.002
Barium (Ba)	ND	ND	ND	ND	0.1	7.0	1.0
Beryllium (Be)	ND	ND	ND	ND	0.005	0.07	0.01
Cadmium (Cd)	ND	ND	ND	ND	0.001	0.035	0.005
Lead (Pb)	ND	ND	ND	ND	0.005	0.070	0.010
Lithium (Li)	ND	ND	ND	ND	0.010	0.336	0.048
Mercury (Hg)	ND	ND	ND	ND	0.002	0.021	0.003
Thallium (Tl)	ND	ND	ND	ND	0.0001	0.0007	0.0001
Magnesium(Mg)	ND	ND	ND	ND	1	-	-
Titanium(Ti)	ND	ND	ND	ND	1	-	-
Tungsten (W)	ND	ND	ND	ND	0.01	0.35	0.05

ND = Not detected (less than reporting limit)

Tested Component : See component list in last section of this report.



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7 Phthalate and plasticiser Content

By solvent extraction and followed by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Phthalate content:

Phthalate	CAS No.	Result (%)	Reporting Limit (%)	Limit (%)
		(2)		
Dibutyl phthalate (DBP)	84-74-2	ND	0.01	0.05
Di-(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ND	0.01	0.1
Benzyl butyl phthalate (BBP)	85-68-7	ND	0.01	0.1
Di-isononyl phthalate (DINP)	28553-12-0/ 68515-48-0	ND	0.01	0.1
Di-isodecyl phthalate (DIDP)	26761-40-0/ 68515-49-1	ND	0.01	0.1

Plasticiser content:

Plasticiser	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Limit (mg/kg)
		(2)		
Divinyl adipate	4074-90-2	ND	1	5

ND = Not detected (less than reporting limit)

Tested component(s) : See component list in last section of the report

8 Specific Migration of Phthalate and Plasticiser Content Test

As per Commission Regulation (EU) No. 10/2011, and its amendment.

I. Test condition:

Tested component	Food simulant	Temperature(°C)	Time (hours)
(1)	95%(v/v) ethanol	60	3.5

II. Test result:

Substance	Result(mg/kg)	Reporting Limit (mg/kg)	Limit (mg/kg)
	(1)		
Butyl benzy phthalate (BBP)	ND	1	30
Bis (2-ethylhexyl) phthalate (DEHP)	ND	1	1.5
Dibutyl phthalate (DBP)	ND	0.2	0.3
Di-(iso-nonyl) Phthalate (DINP) + Di-(iso-decyl) phthalate (DIDP)	ND	1	9
Diallyl phthalate (DAP)	ND	0.01	ND
Divinyl adipate	ND	0.01	ND

ND = Not detected(less than reporting limit)

Tested components : See tested component list in last section of this report



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9 Short Chain Chlorinated Paraffins (C10 - C13) (SCCP) Content

With reference to ISO 18219:2012, determined by Gas Chromatography-Mass Spectrometry (GC-MS).

Tested component	Result (mg/kg)	Reporting limit (mg/kg)	Limit (mg/kg)
(2)	ND	100	1500

ND = Not detected

Tested components: See component list in the last section of this report

10 Dimethyl Fumarate (DMFu) Content

With reference to ISO/TS16186:2012, solvent extraction method was used and DMFu content was determined by Gas Chromatography- Mass Spectrometry (GC-MS).

Test item	CAS No	Result (mg/kg)	Reporting limit (mg/kg)	Limit (mg/kg)
		Tested component (2)		
Dimethyl Fumarate (DMFu)	624-49-7	ND	0.05	0.1

ND = Not detected(less than reporting limit)

Tested Component(s): See component list in the last section of this report

11 Leachable Lead and Cadmium Content - Internal Surface

With reference to European Council Directive 84/500/EEC and Commission Directive 2005/31/EC by Atomic Absorption Spectrophotometric (AAS) analysis.

Test condition: 4% acetic acid, 20-24°C , 24 hours

Tested component(3):

Tested Specimen	Surface Area (dm <sup>2</sup> )	Leaching Volume (ml)	Result	
			Lead mg/dm <sup>2</sup>	Cadmium mg/dm <sup>2</sup>
(1)	3.05	380	ND(<0.05)	ND(<0.03)
(2)	3.05	380	ND(<0.05)	ND(<0.03)
Limit (category 1) :			0.8	0.07

ND = Not detected





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12 Migration of Aluminium, Cobalt and Arsenic

Sample with 4% acetic acid simulant was conditioned at 22 °C for 24 hours, 3 successive migrations were taken and solutions of 3<sup>rd</sup> migration were analyzed by ICP/MS.

Tested component(3):

Tested Specimen	Leaching Volume (ml)	Result (mg/kg of food simulant)		
		Aluminium(Al)	Cobalt(Co)	Arsenic(As)
(1)	380	ND(<0.1)	ND(<0.005)	ND (< 0.002)
(2)	380	ND(<0.1)	ND(<0.005)	ND (< 0.002)
	Limit :	1.0	0.02	ND (< 0.002)

ND = Not detected

Component list:

- (1) Silver color metal with non-stick coating
- (2) Black non-stick coating on metal
- (3) Transparent glass (lid)

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End of report

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