



Technical Report No. 68.160.14.20336.01B
Dated 2014-05-04

Client: Liveon Industrial Co., Ltd

Address: No.46, Yudong 6 Road, the 4th Industrial Estate, Yangdong, Yangjiang, Guangdong, China

Attn.: Mr.david chen

Sample Description: 5PCS coating knife set with Acrylic block

Sample materials 0081221

Sample Receive Date: 2014-04-17

Test Period: From 2014-04-17 to 2014-04-30

Test Requested and Conclusion: (1) Polycyclic Aromatic Hydrocarbons (PAHs) Content **PASS**
(2) Color Fastness to Food Simulant **PASS**

Test Result: Refer to following page(s)

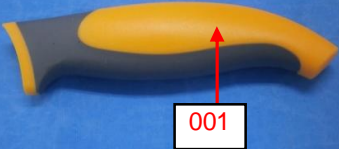
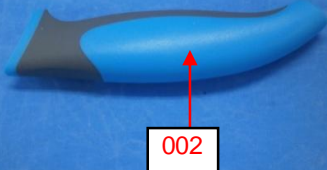


Remark: -- The result relates only to the items tested.
-- The test item and sample were specified by the client.

This technical report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
TÜV SÜD Group
Building 12&13, Zhiheng Wisdomland Business Park,
Nantou Checkpoint road 2,
Shenzhen 518052, P. R. China

Tel.: (86) 755 88286998
Fax: (86) 755 88285299

1 TESTED SUBJECT DESCRIPTION

Sample Number	Tested Material Description	Photo
001	Yellow plastic handle	
002	Blue plastic handle	
003	Pink plastic handle	
004	Red plastic handle	
005	Green plastic handle	
006	Grey soft plastic handle	

2 TEST RESULT

2.1 POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) CONTENT TEST

Test method: With reference to ZEK 01.4-08, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting limit = 0.20 mg/kg]

No.	Test Item	Result [mg/kg]		
		Sample 001	Sample 002	Sample 003
1	Naphthalene	<0.20	<0.20	<0.20
2	Acenaphthylene	<0.20	<0.20	<0.20
3	Acenaphthene	<0.20	<0.20	<0.20
4	Fluorene	<0.20	<0.20	<0.20
5	Phenanthrene	<0.20	<0.20	<0.20
6	Anthracene	<0.20	<0.20	<0.20
7	Fluoranthene	<0.20	<0.20	<0.20
8	Pyrene	<0.20	<0.20	<0.20
9	Benzo[a]anthracene	<0.20	<0.20	<0.20
10	Chrysene	<0.20	<0.20	<0.20
11	Benzo[b]fluoranthene	<0.20	<0.20	<0.20
12	Benzo[k]fluoranthene	<0.20	<0.20	<0.20
13	Benzo[j]fluoranthene	<0.20	<0.20	<0.20
14	Benzo[e]pyrene	<0.20	<0.20	<0.20
15	Benzo[a]pyrene	<0.20	<0.20	<0.20
16	Indeno[1,2,3-c,d]pyrene	<0.20	<0.20	<0.20
17	Dibenzo[a,h]anthracene	<0.20	<0.20	<0.20
18	Benzo[g,h,i]perylene	<0.20	<0.20	<0.20
Sum of Detected 18 PAHs		<0.20	<0.20	<0.20
Category according to ZEK 01.4-08		II	II	II

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- Requirement of ZEK 01.4-08: Restraining maximum values for products

Parameter	Category (I)	Category (II)	Category (III)
	Materials indented to be put in the mouth and toys for children aged < 36 months	Material with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Material with foreseeable contact to skin up to 30 seconds (short term skin contact) or without skin contact.
Benzo[a]pyrene mg/kg	Not detectable (<0.2)	1	20
Sum 18 PAH mg/kg	Not detectable (<0.2)	10	200

If the limits of category (I) are surpassed but the limits of category (II) still met, the confirmation of suitability of contact with foodstuff or the oral mucosa can be verified by an additional migration test of the PAH components according to DIN EN 1186 and § 64 LFGB 80.30-1. The results of the migration test shall be evaluated according to law criteria for foodstuff.



Technical Report No. 68.160.14.20336.01B
Dated 2014-05-04

(Continued)

No.	Test Item	Result [mg/kg]		
		Sample 004	Sample 005	Sample 006
1	Naphthalene	<0.20	<0.20	0.24
2	Acenaphthylene	<0.20	<0.20	<0.20
3	Acenaphthene	<0.20	<0.20	<0.20
4	Fluorene	<0.20	<0.20	<0.20
5	Phenanthrene	<0.20	<0.20	<0.20
6	Anthracene	<0.20	<0.20	<0.20
7	Fluoranthene	<0.20	<0.20	<0.20
8	Pyrene	<0.20	<0.20	<0.20
9	Benzo[a]anthracene	<0.20	<0.20	<0.20
10	Chrysene	<0.20	<0.20	<0.20
11	Benzo[b]fluoranthene	<0.20	<0.20	<0.20
12	Benzo[k]fluoranthene	<0.20	<0.20	<0.20
13	Benzo[j]fluoranthene	<0.20	<0.20	<0.20
14	Benzo[e]pyrene	<0.20	<0.20	<0.20
15	Benzo[a]pyrene	<0.20	<0.20	<0.20
16	Indeno[1,2,3-c,d]pyrene	<0.20	<0.20	<0.20
17	Dibenzo[a,h]anthracene	<0.20	<0.20	<0.20
18	Benzo[g,h,i]perylene	<0.20	<0.20	<0.20
Sum of Detected 18 PAHs		<0.20	<0.20	0.24
Category according to ZEK 01.4-08		II	II	II

Note:

- "mg/kg" denotes milligram per kilogram
- "<" denotes less than
- Requirement of ZEK 01.4-08: Restraining maximum values for products

Parameter	Category (I)	Category (II)	Category (III)
	Materials indented to be put in the mouth and toys for children aged < 36 months	Material with foreseeable contact to skin for longer than 30 seconds (long-term skin contact) and toys not covered by category 1	Material with foreseeable contact to skin up to 30 seconds (short term skin contact) or without skin contact.
Benzo[a]pyrene mg/kg	Not detectable (<0.2)	1	20
Sum 18 PAH mg/kg	Not detectable (<0.2)	10	200

If the limits of category (I) are surpassed but the limits of category (II) still met, the confirmation of suitability of contact with foodstuff or the oral mucosa can be verified by an additional migration test of the PAH components according to DIN EN 1186 and § 64 LFGB 80.30-1. The results of the migration test shall be evaluated according to law criteria for foodstuff.



Technical Report No. 68.160.14.20336.01B
Dated 2014-05-04

2.2 COLOR FASTNESS TEST

Test method: With reference to Kunststoffe im Lebensmittelverkehr ,Book II, Teil B II, XI.

Simulant Used	Test Condition	Result [mg/dm ²]		
		Sample 001	Sample 002	Sample 003
Distilled water	50°C for 5 hours	No	No	No
2% Acetic Acid	50°C for 5 hours	No	No	No
Olive Oil	50°C for 5 hours	No	No	No

Simulant Used	Test Condition	Result [mg/dm ²]		
		Sample 004	Sample 005	Sample 006
Distilled water	50°C for 5 hours	No	No	No
2% Acetic Acid	50°C for 5 hours	No	No	No
Olive Oil	50°C for 5 hours	No	No	No

Note:

- "°C" denotes degree Celsius
- "mg/dm²" denotes milligram per square decimeter
- "No" denotes there is no difference between the blank and the filter paper which contacted with the sample or detects bleeding

TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
 TÜV SÜD Group

Prepared by:

Konnie Zhang
Project Handler



Reviewed by:

Mario Ma
Designated Reviewer