



Test Report

No. F690101/LF-CTSAYAA16-31579

Issued Date: 2016. 06. 20

Page 1 of 3

NPC CO., LTD.
289, Haean-ro, Danwon-gu, Ansan-si
Gyeonggi-do
Korea

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

SGS File No. : AYAA16-31579
Product Name : Plunger
Item No./Part No. : N/A
Received Date : 2016. 05. 31
Test Period : 2016. 05. 31 to 2016. 06. 20
Test Result(s) : For further details, please refer to following page (s)

Result Summary

Test Requested	Conclusion
1. German Food, Articles of Daily Use and Feed Code of September 1, 2005(LFGB), Section 31	-
a) Sensorial examination odour and taste test	PASS

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab manager

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Test Report

No. F690101/LF-CTSAYAA16-31579

Issued Date: 2016. 06. 20

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Sample No. : AYAA16-31579.001

Sample Description : Plunger

Item / Part No. : N/A

1. In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB) with its amendment, Section 30 and 31, and article 3 of EU Regulation (EC) No 1935/2004

a) Sensorial examination of odour and taste

Test Method: With reference to DIN10955: 2004

Migration condition: 40 °C for 10 days

Test Simulant: Water

The number of panelists: 6

Test Results :

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	0.5	2.5
Comment		PASS	--

Note : 1. Intensity scale (rounded at 0.5):

- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

2. Permissible Limit is according to LFGB with its amendment, Section 30 and 31, and Regulation (EC) No 1935/2004 of The European Parliament and of the Council of 27 October 2004.

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Picture of Samples as Received:



*** End of Report ***

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Test Report

No.: HKHL1512051016JL-02

Date: JUN 17, 2016

Page 1 of 3

NPC CO., LTD.
289, Haeon-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

This report supersedes all previous documents bearing the test report number HKHL1512051016JL-01 .

The following samples were submitted and identified on behalf of the client as:

SPRING / SGS REF NO.AYAA15-60402

SGS Case No. : HKHL151200037716
Sample Receiving Date : DEC 03, 2015
Test Performing Date : DEC 03 - 21, 2015

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
1. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.	--
a) Metal / Metallic coating – Extractable heavy metals	PASS
2. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.	--
a) Sensorial examination odour and taste test	PASS

Signed for and on behalf of
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry
Technical Manager

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Test Results:

1) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.

a) Metal / Metallic coating – Extractable heavy metals

Method : Sample preparation in artificial tap water at 40°C for 10 days with reference to EN13130-1:2004 for selection of test method, followed by analysis using Inductively Coupled Argon Plasma Spectrometry (ICP) and Inductively coupled plasma-mass spectrometry (ICP-MS).

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Specific Release Limit (SRL) (mg/kg)
	1		
Aluminium (Al)	ND	0.2	5
Antimony (Sb)	ND	0.02	0.04
Arsenic (As)	ND	0.001	0.002
Barium (Ba)	ND	0.25	1.2
Beryllium (Be)	ND	0.005	0.01
Cadmium (Cd)	ND	0.002	0.005
Chromium (Cr)	ND	0.1	0.25
Cobalt (Co)	ND	0.01	0.02
Copper (Cu)	ND	0.1	4
Iron (Fe)	ND	0.25	40
Lead (Pb)	ND	0.005	0.01
Lithium (Li)	ND	0.02	0.048
Manganese (Mn)	ND	0.25	1.8
Mercury (Hg)	ND	0.002	0.003
Molybdenum (Mo)	ND	0.02	0.12
Nickel (Ni)	ND	0.05	0.14
Silver (Ag)	ND	0.03	0.08
Thallium (Tl)	ND	0.0001	0.0001
Tin (Sn)	ND	5	100
Vanadium (V)	ND	0.005	0.01
Zinc (Zn)	ND	1	5
Comment	PASS	--	--

Sample Description :

1. Silvery Metal

Note : 1.mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3. ND = Not Detected

Remark :

1. The test data is based on first migration result only.

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2) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.

a) Sensory examination – odour and taste test

Method : With reference to DIN10955:2004-06.

Test Condition : Deionised Water at 40°C for 10 days

Test Item	Result	Permissible Limit
	1	
Sensorial examination odour (Intensity scale)	0.0	2.5
Sensorial examination taste (Intensity scale)	2.0	2.5
Comment	PASS	--

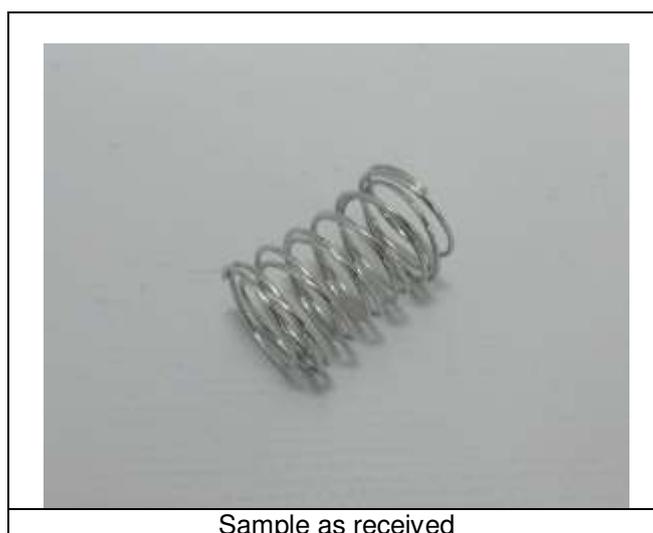
Sample Description :

1. Silvery Metal

Note : Intensity scale :

- 0 – no perceptible deviation
- 1 – deviation just perceptible
- 2 – moderate deviation
- 3 – distinct deviation
- 4 – large deviation

Photo Appendix



*** End of Report ***

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Test Report

No.: HKHL1512051033JL-02

Date: JUN 17, 2016

Page 1 of 3

NPC CO., LTD.
289, Haeon-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

This report supersedes all previous documents bearing the test report number HKHL1512051033JL-01.

The following samples were submitted and identified on behalf of the client as:

BODY / SGS REF NO. AYAA15-60403

SGS Case No. : HKHL151200037728
Sample Receiving Date : DEC 03, 2015
Test Performing Date : DEC 03 - 21, 2015

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
1. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.	--
a) Metal / Metallic coating – Extractable heavy metals	PASS
2. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.	--
a) Sensorial examination odour and taste test	PASS

Signed for and on behalf of
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry
Technical Manager

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Test Results:

1) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.

a) Metal / Metallic coating – Extractable heavy metals

Method : Sample preparation in artificial tap water at 40°C for 10 days with reference to EN13130-1:2004 for selection of test method, followed by analysis using Inductively Coupled Argon Plasma Spectrometry (ICP) and Inductively coupled plasma-mass spectrometry (ICP-MS).

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Specific Release Limit (SRL) (mg/kg)
	1		
Aluminium (Al)	ND	0.2	5
Antimony (Sb)	ND	0.02	0.04
Arsenic (As)	ND	0.001	0.002
Barium (Ba)	ND	0.25	1.2
Beryllium (Be)	ND	0.005	0.01
Cadmium (Cd)	ND	0.002	0.005
Chromium (Cr)	ND	0.1	0.25
Cobalt (Co)	ND	0.01	0.02
Copper (Cu)	ND	0.1	4
Iron (Fe)	ND	0.25	40
Lead (Pb)	ND	0.005	0.01
Lithium (Li)	ND	0.02	0.048
Manganese (Mn)	ND	0.25	1.8
Mercury (Hg)	ND	0.002	0.003
Molybdenum (Mo)	ND	0.02	0.12
Nickel (Ni)	ND	0.05	0.14
Silver (Ag)	ND	0.03	0.08
Thallium (Tl)	ND	0.0001	0.0001
Tin (Sn)	ND	5	100
Vanadium (V)	ND	0.005	0.01
Zinc (Zn)	ND	1	5
Comment	PASS	--	--

Sample Description :

1. Silvery Metal

Note : 1.mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3. ND = Not Detected

Remark :

1. The test data is based on first migration result only.

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2) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.

a) Sensory examination – odour and taste test

Method : With reference to DIN10955:2004-06.

Test Condition : Deionised Water at 40°C for 10 days

Test Item	Result	Permissible Limit
	1	
Sensorial examination odour (Intensity scale)	0.0	2.5
Sensorial examination taste (Intensity scale)	0.5	2.5
Comment	PASS	--

Sample Description :

1. Silvery Metal

Note : Intensity scale :

- 0 – no perceptible deviation
- 1 – deviation just perceptible
- 2 – moderate deviation
- 3 – distinct deviation
- 4 – large deviation

Photo Appendix



*** End of Report ***

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Test Report

No.: HKHL1512051039JL-02

Date: JUN 17, 2016

Page 1 of 3

NPC CO., LTD.
289, Haeon-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

This report supersedes all previous documents bearing the test report number HKHL1512051039JL-01.

The following samples were submitted and identified on behalf of the client as:

NOZZLE / SGS REF NO.AYAA15-60405

SGS Case No. : HKHL151200037724
Sample Receiving Date : DEC 03, 2015
Test Performing Date : DEC 03 - 21, 2015

Test Requested : Please refer to the result summary.

Test Method & Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
1. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.	--
a) Metal / Metallic coating – Extractable heavy metals	PASS
2. German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.	--
a) Sensorial examination odour and taste test	PASS

Signed for and on behalf of
SGS Hong Kong Ltd.

Che Wai Leuk, Jerry
Technical Manager

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Test Results:

1) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and Technical Guide on Metals and alloys used in food contact materials of Council of Europe Resolution CM/Res(2013)9.

a) Metal / Metallic coating – Extractable heavy metals

Method : Sample preparation in artificial tap water at 40°C for 10 days with reference to EN13130-1:2004 for selection of test method, followed by analysis using Inductively Coupled Argon Plasma Spectrometry (ICP) and Inductively coupled plasma-mass spectrometry (ICP-MS).

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Specific Release Limit (SRL) (mg/kg)
	1		
Aluminium (Al)	ND	0.2	5
Antimony (Sb)	ND	0.02	0.04
Arsenic (As)	ND	0.001	0.002
Barium (Ba)	ND	0.25	1.2
Beryllium (Be)	ND	0.005	0.01
Cadmium (Cd)	ND	0.002	0.005
Chromium (Cr)	ND	0.1	0.25
Cobalt (Co)	ND	0.01	0.02
Copper (Cu)	ND	0.1	4
Iron (Fe)	ND	0.25	40
Lead (Pb)	ND	0.005	0.01
Lithium (Li)	ND	0.02	0.048
Manganese (Mn)	ND	0.25	1.8
Mercury (Hg)	ND	0.002	0.003
Molybdenum (Mo)	ND	0.02	0.12
Nickel (Ni)	ND	0.05	0.14
Silver (Ag)	ND	0.03	0.08
Thallium (Tl)	ND	0.0001	0.0001
Tin (Sn)	ND	5	100
Vanadium (V)	ND	0.005	0.01
Zinc (Zn)	ND	1	5
Comment	PASS	--	--

Sample Description :

1. Silvery Metal

Note : 1.mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3. ND = Not Detected

Remark :

1. The test data is based on first migration result only.

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2) German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 31.

a) Sensory examination – odour and taste test

Method : With reference to DIN10955:2004-06.

Test Condition : Deionised Water at 40°C for 10 days

Test Item	Result	Permissible Limit
	1	
Sensorial examination odour (Intensity scale)	0.0	2.5
Sensorial examination taste (Intensity scale)	1.0	2.5
Comment	PASS	--

Sample Description :

1. Silvery Metal

Note : Intensity scale :

- 0 – no perceptible deviation
- 1 – deviation just perceptible
- 2 – moderate deviation
- 3 – distinct deviation
- 4 – large deviation

Photo Appendix



*** End of Report ***

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Test Report

No. F690101/LF-CTSAYAA16-04804R1

Issued Date: 2016. 02. 29

Page 1 of 5

NPC CO., LTD.
289, Haean-ro, Danwon-gu, Ansan-si
Gyeonggi-do
Korea

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

SGS File No. : AYAA16-04804R1
Product Name : Silicone Cap
Item No./Part No. : N/A
Received Date : 2016. 01. 22
Test Period : 2016. 01. 22 to 2016. 02. 29
Test Result(s) : For further details, please refer to following page (s)
Supersede/Referral : The test report supercedes previous report number, "F690101/LF-CTSAYAA16-04804" issued by SGS Korea Co., Ltd.

Result Summary :

Test Requested	Conclusion
According to LFGB and Regulation (EC) No 1935/2004 for selected items.	-
1. BfR Recommendation XV.	-
a) Peroxides	PASS
b) Extractable components	PASS
c) Volatile Organic Matter	PASS
2. BfR Recommendation IX	-
a) Colour release	PASS
3. German Food, Articles of Daily Use and Feed Code of September 1, 2005(LFGB), Section 31	-
a) Sensorial examination odour and taste test	PASS

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab manager

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Test Report

No. F690101/LF-CTSAYAA16-04804R1

Issued Date: 2016. 02. 29

Page 2 of 5

Sample No. : AYAA16-04804R1.001

Sample Description : Silicone Cap

Item / Part No. : N/A

Test result(s) :

1. Tests according to BfR Recommendation XV

a. Silicone - Peroxides

Method : With reference to European Pharmacopoeia, 1977, p.173.

Test item	Result	Requirement*
Peroxide Value	Absent	Absent
Comments	PASS	

b. Silicone – Extractable Components

Method : With reference to 61. Mitteilung über die Untersuchung von Kunststoffen, Bundesgesundheitsbl 46 (2003) 362.

Test condition: 40 °C for 10 days

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
10% ethanol	N.D	0.1	0.5
Comment	PASS	--	--

- Note:
1. % w/w = percentage of weight by weight
 2. ND = Not Detected
 3. Permissible Limit is according to BfR Recommendation XV

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Sample No. : AYAA16-04804R1.001

Sample Description : Silicone Cap

Item / Part No. : N/A

c. Silicone – Volatile Organic Matter (VOM)

Method : With reference to 60. Mitteilung über die Untersuchung von Kunststoffen, Bundesgesundheitsbl 45 (2002) 462 and LFGB§64 BVL B 80.30.1(EG).

Test Item	Test Condition	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
Volatile Organic Matter (VOM)	40 °C for 10 days	0.34	0.1	0.5
Comment	-	PASS	-	-

- Note:
1. % w/w = percentage of weight by weight
 2. ND = Not Detected
 3. Permissible Limit is according to BfR Recommendation XV

2. Tests according to BfR Recommendation IX

a. Silicone - Colour release

Method : With reference to recommendation IX of the plastic commission of the BfR.

Simulant Used	Clear	Requirement
20% Ethanol	No colour release	No colour release

Note : 1. Permissible Limit is according to BfR Recommendation IX.

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Test Report

No. F690101/LF-CTSAYAA16-04804R1

Issued Date: 2016. 02. 29

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Sample No. : AYAA16-04804R1.001

Sample Description : Silicone Cap

Item / Part No. : N/A

3. In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB) with its amendment, Section 31, and article 3 of EU Regulation (EC) No 1935/2004

a) Sensorial examination of odour and taste

Test Method: With reference to DIN10955: 2004

Migration condition: 40 °C for 10 days

Test Simulant: Water

The number of panelists: 6

Test Results :

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	0.5	2.5
Comment		PASS	--

Note : 1. Intensity scale (rounded at 0.5):

- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

2. Permissible Limit is according to LFGB with its amendment, Section 30 and 31, and Regulation (EC) No 1935/2004 of The European Parliament and of the Council of 27 October 2004.

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Picture of Sample as Received :



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Test Report

No. F690101/LF-CTSAYAA15-60406R1

Issued Date: 2015. 12. 16

Page 1 of 5

NPC CO., LTD.
289, Haean-ro, Danwon-gu, Ansan-si
Gyeonggi-do
Korea

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

SGS File No. : AYAA15-60406R1
Product Name : Teflon O-Ring
Item No./Part No. : N/A
Received Date : 2015. 11. 27
Test Period : 2015. 11. 27 to 2015. 12. 16
Test Result(s) : For further details, please refer to following page (s)
Supersede/Referral : The test report supercedes previous report number, "F690101/LF-CTSAYAA15-60406" issued by SGS Korea Co., Ltd.

Result Summary :

Test Requested	Conclusion
1. Commission Regulation (EU) No 10/2011 and hence Article 3 of European Regulation No. 1935/2004.	-
a) Plastic – Overall Migration	PASS
b) Plastic – Specific Migration of Heavy Metals	PASS
2. German Food, Articles of Daily Use and Feed Code of September 1, 2005(LFGB), Section 31	-
a) Sensorial examination odour and taste test	PASS

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab manager

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Test Report

No. F690101/LF-CTSAYAA15-60406R1

Issued Date: 2015. 12. 16

Page 2 of 5

Sample No. : AYAA15-60406R1.001

Sample Description : Teflon O-Ring

Item / Part No. : N/A

Test result(s) :

1. European Commission Regulation (EU) No 10/2011

a) Plastic – Overall migration

Method: With reference to EN 1186-1:2002 for selection of conditions and test methods;

EN 1186-3:2002 aqueous food simulants by total immersion method;

Simulant Used	Test Condition	Result (mg/dm ²)	Detection Limit (mg/dm ²)	Permissible (mg/dm ²)
20% Ethanol(V/V) Aqueous Solution	40 °C for 10 days	N.D	3.0	10
Comment	--	PASS	--	--

Note : 1. mg/dm² = milligram per square decimeter

2. °C = degree Celsius

3. N.D = Not Detected

4. Permissible Limit is according to Commission Regulation (EU) No 10/2011 of January 2011 with amendments.

Remark:

1. Analytical tolerance of aqueous simulants is 1mg/dm² or 6mg/kg
2. Analytical tolerance of fatty food simulants is 3mg/dm² or 20mg/kg
3. Test condition & simulant were specified by client.

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Test Report

No. F690101/LF-CTSAYAA15-60406R1

Issued Date: 2015. 12. 16

Page 3 of 5

Sample No. : AYAA15-60406R1.001

Sample Description : Teflon O-Ring

Item / Part No. : N/A

b) Plastic – Specific migration of Heavy metals

Method: With reference to EN 13130-1:2004. Analysis was performed by ICP-MS / ICP-OES.

Simulant Used: 3 % acetic acid (w/v) in aqueous solution

Test Condition: 40 °C for 10 days

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Permissible (mg/kg)
Specific Migration of Barium	N.D	0.3	1
Specific Migration of Cobalt	N.D	0.01	0.05
Specific Migration of Copper	N.D	0.3	5
Specific Migration of Iron	N.D	0.3	48
Specific Migration of Lithium	N.D	0.5	0.6
Specific Migration of Manganese	N.D	0.3	0.6
Specific Migration of Zinc	N.D	0.5	25
Comment	PASS	--	--

Note : 1. mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3.N.D == Not Detected.

4.Permissible Limit is according to Commission Regulation (EU) No 10/2011 of January 2011 with amendments.

Remark : 1. Test condition & simulant were specified by client

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Test Report

No. F690101/LF-CTSAYAA15-60406R1

Issued Date: 2015. 12. 16

Page 4 of 5

Sample No. : AYAA15-60406R1.001

Sample Description : Teflon O-Ring

Item / Part No. : N/A

2. In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB) with its amendment, Section 31, and article 3 of EU Regulation (EC) No 1935/2004

a) Sensorial examination of odour and taste

Test Method: With reference to DIN10955: 2004

Migration condition: 40 °C for 10 days

Test Simulant: Water

The number of panelists: 6

Test Results :

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	0.5	2.5
Comment		PASS	--

Note : 1. Intensity scale (rounded at 0.5):

- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

2. Permissible Limit is according to LFGB with its amendment, Section 30 and 31, and Regulation (EC) No 1935/2004 of The European Parliament and of the Council of 27 October 2004.

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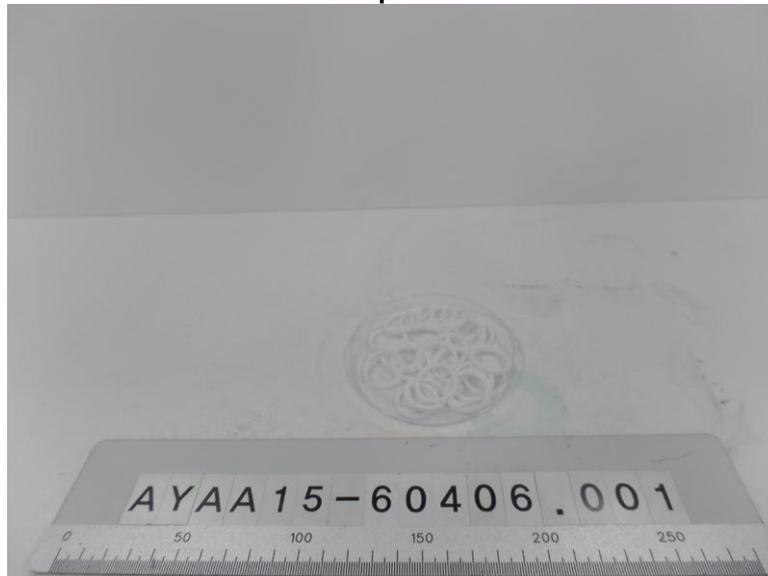
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Picture of Samples as Received:



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Test Report No. F690101/LF-CTSAYAA15-60408R1 Issued Date: 2015. 12. 16 Page 1 of 6

NPC CO., LTD.
289, Haean-ro, Danwon-gu, Ansan-si
Gyeonggi-do
Korea

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

SGS File No. : AYAA15-60408R1
Product Name : O-Ring
Item No./Part No. : N/A
Received Date : 2015. 11. 27
Test Period : 2015. 11. 27 to 2015. 12. 16
Test Result(s) : For further details, please refer to following page (s)
Supersede/Referral : The test report supercedes previous report number, "F690101/LF-CTSAYAA15-60408" issued by SGS Korea Co., Ltd.

Result Summary

Test Requested	Conclusion
According to LFGB and Regulation (EC) No 1935/2004 for selected items.	-
1. BfR Recommendation XV.	-
a) Peroxides	PASS
b) Extractable components	PASS
c) Volatile Organic Matter	PASS
2. BfR Recommendation IX	-
a) Colour release	PASS
3. Commission Regulation (EU) No 10/2011	-
a) Specific Migration of Primary Aromatic Amine	PASS
4. German Food, Articles of Daily Use and Feed Code of September 1, 2005(LFGB), Section 31	-
a) Sensorial examination odour and taste test	PASS

SGS Korea Co., Ltd.

Jeff Jang / Chemical Lab manager

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Test Report

No. F690101/LF-CTSAYAA15-60408R1

Issued Date: 2015. 12. 16

Page 2 of 6

Sample No. : AYAA15-60408R1.001

Sample Description : O-Ring

Item / Part No. : N/A

Test result(s) :

1. Tests according to BfR Recommendation XV

a. Silicone - Peroxides

Method : With reference to European Pharmacopoeia, 1977, p.173.

Test item	Result	Requirement*
Peroxide Value	Absent	Absent
Comments	PASS	

b. Silicone – Extractable Components

Method : With reference to 61. Mitteilung über die Untersuchung von Kunststoffen, Bundesgesundheitsbl 46 (2003) 362.

Test condition: 40 °C for 10 days

Test Item	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
10% ethanol	N.D	0.1	0.5
Comment	PASS	--	--

- Note:
1. % w/w = percentage of weight by weight
 2. ND = Not Detected
 3. Permissible Limit is according to BfR Recommendation XV

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Sample No. : AYAA15-60408R1.001

Sample Description : O-Ring

Item / Part No. : N/A

c. Silicone – Volatile Organic Matter (VOM)

Method : With reference to 60. Mitteilung über die Untersuchung von Kunststoffen, Bundesgesundheitsbl 45 (2002) 462 and LFGB§64 BVL B 80.30.1(EG).

Test Item	Test Condition	Result (% w/w)	Reporting Limit (% w/w)	Permissible Limit (% w/w)
Volatile Organic Matter (VOM)	40 °C for 10 days	0.26	0.1	0.5
Comment	-	PASS	-	-

- Note:
1. % w/w = percentage of weight by weight
 2. ND = Not Detected
 3. Permissible Limit is according to BfR Recommendation XV

2. Tests according to BfR Recommendation IX

a. Silicone - Colour release

Method : With reference to recommendation IX of the plastic commission of the BfR.

Simulant Used	Clear	Requirement
20% Ethanol	No colour release	No colour release

Note : 1. Permissible Limit is according to BfR Recommendation IX.

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Test Report

No. F690101/LF-CTSAYAA15-60408R1

Issued Date: 2015. 12. 16

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Sample No. : AYAA15-60408R1.001

Sample Description : O-Ring

Item / Part No. : N/A

3. Commission Regulation (EU) No 10/2011

Method: With reference to EN 13130-1:2004. Analysis was performed by UV-vis Spectrophotometer.

Simulant Used: 3% acetic acid (w/v) in aqueous solution

Test Condition: 40°C for 10 days

Test Item	Result (mg/kg)	Reporting Limit (mg/kg)	Permissible Limit (mg/kg)
Specific migration of Primary Aromatic Amine	N.D	0.002	0.01
Comment	PASS	--	--

Note: 1. mg/kg = milligram per kilogram of foodstuff in contact with

2. °C = degree Celsius

3. ND = Not Detected

4. Permissible Limit is according to Commission Regulation (EU) No 10/2011 of 14 January 2011 with amendments.

Remark:

1. Test condition & simulant were specified by client.

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Test Report

No. F690101/LF-CTSAYAA15-60408R1

Issued Date: 2015. 12. 16

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Sample No. : AYAA15-60408R1.001

Sample Description : O-Ring

Item / Part No. : N/A

4. In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB) with its amendment, Section 31, and article 3 of EU Regulation (EC) No 1935/2004

a) Sensorial examination of odour and taste

Test Method: With reference to DIN10955: 2004

Migration condition: 40 °C for 10 days

Test Simulant: Water

The number of panelists: 6

Test Results :

Test Simulant	Test Item	Result	Maximum Permissible Limit
Water	Sensorial examination odour	0.5	2.5
	Sensorial examination taste	0.5	2.5
Comment		PASS	--

Note : 1. Intensity scale (rounded at 0.5):

- 0 – no perceptible difference
- 1 – just perceptible difference
- 2 – slight difference
- 3 – marked difference
- 4 – strong difference

2. Permissible Limit is according to LFGB with its amendment, Section 30 and 31, and Regulation (EC) No 1935/2004 of The European Parliament and of the Council of 27 October 2004.

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Picture of Sample as Received :



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