

Test Report No.: 68.431.21.0040.01

Dated: 2021-03-12



Applicant : GUANGDONG KINGFA SCI.&TECH. CO., LTD.
NO.28 Delong Avenue, Shijiao Town, Qingcheng District,
Qingyuan City, Guangdong Province, China

Sample Description : Nitrile Gloves

Style No. / Name / Design No. : KS-ST RT021

Supplier/Manufacturer : GUANGDONG KINGFA SCI.&TECH. CO., LTD.

Test Sample Receipt Date, Location : 2021-02-24, Shenzhen

Test Period, Location : From 2021-02-24 to 2021-03-10, Shenzhen

Test Result(s) : Refer to Section 3



Test Report No.: 68.431.21.0040.01

Dated: 2021-03-12



Purpose Of Examination / Conclusion:

Test Requested:	As specified by client, to test per the selected requirement(s) for the tested item(s) as stated in the German Food & Feed Acts LFGB (§ 30 & 31) and Regulation (EC) No.1935/2004
------------------------	---

No.	Test Item(s)	Conclusion
1	Overall Migration	Pass
2	Specific Migration of PAA	Pass
3	Specific Migration of PAAs	Pass
4	Specific Migration of Phthalates	Pass
5	Specific Migration of Formaldehyde	Pass
6	Specific Migration of Butadiene (BU)	Pass
7	Peroxide	Pass
8	Total butadiene content	Pass
9	Total Lead and Zinc Content Test	Pass
10	Sensory Test Test for compliance with German Food and Feed Acts LFGB Section 31 and Regulation (EC) No. 1935/2004 Article 3(1)	Pass
11	Phthalates Test	Pass
12	N-Nitrosamines and N-Nitrosatable substances Content	Pass

Remarks:

- (1) The results relate only to the items tested.
- (2) Samples are tested as received.
- (3) The test item and samples were specified by the client
- (4) "Pass" means the measured result is within a limit, even when extended by expanded uncertainty. "Fail" means the measured result is beyond a limit, even when extended by expanded uncertainty. "Inconclusive" means the measured result can be within or beyond a limit when extended by expanded uncertainty. The confidence level of the expanded uncertainty for "Pass", "Fail" and "Inconclusive" is 95%.

Test Report No.: 68.431.21.0040.01

Dated: 2021-03-12



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

Prepared by:

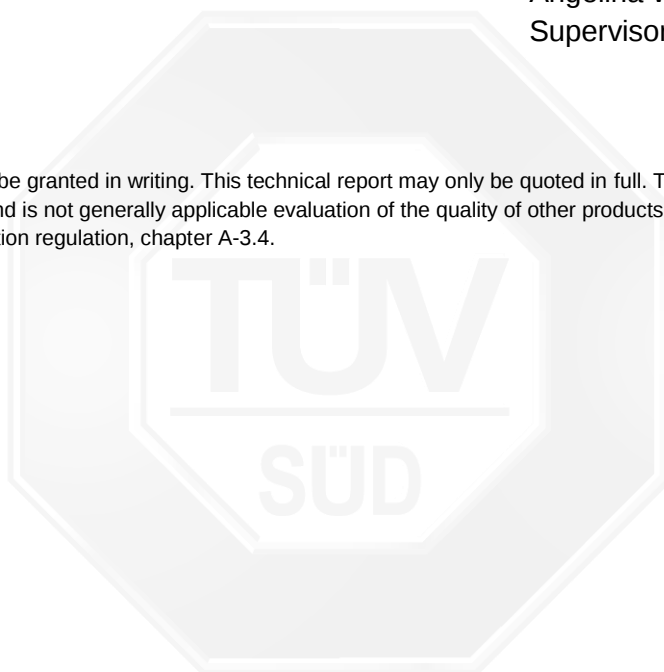
Reviewed by:



Simon Liu
Project Engineer

Angelina Wang
Supervisor

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. 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. For further details, please see testing and certification regulation, chapter A-3.4.



Laboratory:

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

Phone : +86 755 8828 6998

Fax: +86 755 8828 5299

E-mail: info@tuvsud.com

Web : <http://www.tuvsud.cn>

Regd. Office:

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

Test Report No.: 68.431.21.0040.01

Dated: 2021-03-12



1. Description of the Test Sample:

Sample Description	Nitrile Gloves
--------------------	----------------

2. List of Materials as identified by the Laboratory:

T. No.	Sample No.	Colour and Description	Photograph
T1	001	Blue nitrile glove	



3. Test Result

3.1 Overall Migration

Test method: As specified in Regulation (EU) No. 10/2011 ANNEX III and V then test with reference to:

EN 1186-1:2002(Guide to the selection of conditions and test methods for overall migration)

EN 1186-3:2002(Total Immersion method)

EN 1186-14:2002 (Substitute Test method)

SIMULANT USED	TEST CONDITIONS	RESULT [mg/dm ²]			MAXIMUM PERMISSIBLE LIMIT [mg/dm ²]
		SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
3% Acetic acid	40 °C for 0.5 Hour	4.0	3.2	<3	3 rd migration: 10, 3 rd < 2 nd < 1 st
10% Ethanol	40 °C for 0.5 Hour	<3	<3	<3	
Rectified olive oil	40 °C for 0.5 Hour	8.3	3.7	<3	

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/dm²" denotes milligram per square decimeter

4.The specification was quoted from AP Resolution 2004(4)



3.2 Specific Migration of PAA

Test method: With reference to EN 1186-1: 2002.follow by UV spectrophotometer

Test Conditions: 3% Acetic Acid: 40 °C for 0.5 Hour

TEST ITEM	RESULT [mg/kg foodstuff]			MAXIMUM PERMISSIBLE LIMIT [mg/kg foodstuff]
	SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
Primary Aromatic Amine	<0.01	<0.01	<0.01	<0.01
Conclusion	Pass	Pass	Pass	-

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4. The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.



3.3 Specific Migration of PAAs

Test method: With reference to EN 1186-1: 2002.follow by UV spectrophotometer

Test Conditions: 3% Acetic Acid: 40 °C for 0.5 Hour

TEST ITEM	RESULT [mg/kg foodstuff]			MAXIMUM PERMISSIBLE LIMIT [mg/kg foodstuff]
	SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
4-Aminobiphenyl (4-ABP)	<0.002	<0.002	<0.002	<0.002
Aniline (ANL)	<0.002	<0.002	<0.002	<0.002
o-Anisidine (o-ASD)	<0.002	<0.002	<0.002	<0.002
Benzidine (BNZ)	<0.002	<0.002	<0.002	<0.002
4-Chloro-Aniline (4-CA)	<0.002	<0.002	<0.002	<0.002
4-Chloro-o-Toluidine (4-CoT)	<0.002	<0.002	<0.002	<0.002
2,4-Dimethylaniline (2,4-DMA)	<0.002	<0.002	<0.002	<0.002
4,4'-Diaminodiphenylether (4,4'-DPE)	<0.002	<0.002	<0.002	<0.002
4,4*-Methylenedianiline (4,4*-MDA)	<0.002	<0.002	<0.002	<0.002
4,4'-Methylenedi-o-toluidine (4,4'-MDoT)	<0.002	<0.002	<0.002	<0.002
2-Methoxy-5-Methylaniline (2-M-5-MA)	<0.002	<0.002	<0.002	<0.002
m-Phenylenediamine (m-PDA)	<0.002	<0.002	<0.002	<0.002
4-Methoxy-mphenylenediamine (4-M-mPDA)	<0.002	<0.002	<0.002	<0.002
o-Toluidine (o-T)	<0.002	<0.002	<0.002	<0.002
2,4-Toluenediamine (2,4-TDA)	<0.002	<0.002	<0.002	<0.002
3,3-Dimethylbenzidine (3,3-DMB)	<0.002	<0.002	<0.002	<0.002
2,4,5-Trimethylaniline (2,4,5-TMA)	<0.002	<0.002	<0.002	<0.002
2,6-Toluenediamine (2,6-TDA)	<0.002	<0.002	<0.002	<0.002
2,6-Dimethylaniline (2,6-DMA)	<0.002	<0.002	<0.002	<0.002
p-Phenylenediamine (p-PDA)	<0.002	<0.002	<0.002	<0.002
1,5-Diaminenaphthalene (1,5-DAN)	<0.002	<0.002	<0.002	<0.002
2-naphthylamine	<0.002	<0.002	<0.002	<0.002
o-aminoazotoluene	<0.002	<0.002	<0.002	<0.002
5-nitro-o-toluidine	<0.002	<0.002	<0.002	<0.002
3,3'-dichlorobenzidine	<0.002	<0.002	<0.002	<0.002
3,3'-dimethoxybenzidine	<0.002	<0.002	<0.002	<0.002
4,4'-methylene-bis-(2-chloro-aniline)	<0.002	<0.002	<0.002	<0.002
4,4'-thiodianiline	<0.002	<0.002	<0.002	<0.002
4-amino azobenzene	<0.002	<0.002	<0.002	<0.002
Conclusion	Pass	Pass	Pass	-

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4.The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.

Laboratory:

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

Phone : +86 755 8828 6998

Fax: +86 755 8828 5299

E-mail:info@tuvsud.com

Web : http://www.tuvsud.cn

Regd. Office:

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

3.4 Specific Migration of Phthalates

Test method: As specified in Regulation (EU) No. 10/2011 ANNEX III and V, and followed by gas chromatography/Mass Spectrometry (GC-MS) analysis.

Test Conditions: 95% Ethanol: 40 °C for 0.5 Hour

TEST ITEM	RESULTS [mg/kg foodstuff]			MAXIMUM PERMISSIBLE LIMIT [mg/kg foodstuff]
	SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
Dibutyl phthalate (DBP)	<0.30	<0.30	<0.30	0.3
benzyl butyl phthalate (BBP)	<1.0	<1.0	<1.0	30
Bis (2-ethylhexyl) phthalate (DEHP)	<0.30	<0.30	<0.30	1.5
adipic acid, bis(2-ethylhexyl) ester (DEHA)	<1.0	<1.0	<1.0	18
Bis(2-Ethylhexyl) Terephthalate (DEHTP)	<1.0	<1.0	<1.0	60
DINP+DIDP	<2.0	<2.0	<2.0	9
Conclusion	Pass	Pass	Pass	3 rd < 2 nd < 1 st

Note:

1. "mg/kg" denotes milligram per kilogram
2. "<" denotes less than
3. The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.

3.5 Specific Migration of Formaldehyde

Test method: With reference to EN 1186-1: 2002.follow by UV spectrophotometer

Test Conditions: 3% Acetic Acid: 40 °C for 0.5 Hour

TEST ITEM	RESULT [mg/kg]			MAXIMUM PERMISSIBLE LIMIT [mg/kg]
	SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
Formaldehyde	<0.3	<0.3	<0.3	15
Conclusion	Pass	Pass	Pass	-

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4. The specification was quoted from BfR XXI

3.6 Specific Migration of Butadiene (BU)

Test method: As specified in Regulation (EU) No. 10/2011 ANNEX III and V, and followed by gas chromatography/Mass Spectrometry (GC-MS) analysis.

Test Conditions: 3% Acetic Acid: 40 °C for 0.5 Hour

TEST ITEM	RESULT [mg/kg foodstuff]			MAXIMUM PERMISSIBLE LIMIT [mg/kg foodstuff]
	SAMPLE 001 1 st Migration	SAMPLE 001 2 nd Migration	SAMPLE 001 3 rd Migration	
Butadiene	<0.01	<0.01	<0.01	<0.01
Conclusion	Pass	Pass	Pass	-

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4.The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.

Laboratory:

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

Phone : +86 755 8828 6998

Fax: +86 755 8828 5299

E-mail:info@tuvsud.com

Web : <http://www.tuvsud.cn>

Regd. Office:

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

3.7 Peroxide

Test method : With reference to 58th Communication on the testing of plastics,
Bundesgesundheitsbl. 40 (1997) 412.

TEST ITEM	RESULTS	MAXIMUM PERMISSIBLE LIMIT
	SAMPLE 001	
Peroxide Value	Absent	Absent
Conclusion	Pass	-

Note:

- The specification was quoted from Recommendation of the BfR "Kunststoffe im Lebensmittelverkehr Part XV and Part VI

3.8 Total butadiene content

With reference to in house method, followed by gas chromatography/Mass Spectrometry (GC-MS) analysis.

Items	Results [mg/kg]
	Sample 001
Total butadiene content	<0.2
Limit	<1.0
Conclusion	Pass

Note 1. "<" denotes less than

2. "mg/kg" denotes milligram per kilogram

3. The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.

Laboratory:

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

Phone : +86 755 8828 6998

Fax: +86 755 8828 5299

E-mail: info@tuvsud.com

Web : <http://www.tuvsud.cn>

Regd. Office:

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

3.9 Total Lead and Zinc Content Test

Test method: Microwave digestion, followed by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES).

TEST ITEM	RESULTS [%]	MAXIMUM PERMISSIBLE LIMIT [%]
	SAMPLE 001	
Lead (Pb)	<0.002	<0.003
Zinc (Zn)	0.109	<3.0
Conclusion	Pass	-

Note 1. "<" denotes less than

2. "%" denotes percentage per weight

3. The specification was quoted from BfR XXI

3.10 Sensory Test

Test for compliance with German Food and Feed Acts LFGB Section 31 and Regulation (EC) No. 1935/2004 Article 3(1)

Test method: With reference to DIN 10955.

The submitted sample was treated with below test conditions. After this treatment, treated food simulant was examined by panels with regard to any divergence in smell and taste.

Test Item	Test Conditions	Grade Results	Recommend Level
		Sample 001	
Transfer of smell	Distilled water: 40°C for 0.5 Hour	1	<2.5
Transfer of taste	Distilled water: 40°C for 0.5 Hour	1	<2.5
Conclusion		Pass	-

Note:

- Explanation for grading are listed as below:
 - Grade 0 : No perceptible taste/smell deviation
 - Grade 1 : Just perceptible taste/smell deviation
 - Grade 2 : Weak taste/smell deviation
 - Grade 3 : Clear taste/smell deviation
 - Grade 4 : Strong taste/smell deviation

3.11 Phthalates Test

Solvent extraction in chloroform, followed by GC-MS

[Reporting Limit = 0.005%]

Test Items	CAS No.	Results [%]	Limit [%]
		Sample 001	
Benzyl butyl Phthalate, (BBP)	85-68-7	<0.005	<0.1
Di-isodecyl Phthalate, (DIDP)	26761-40-0 , 68515-49-1	<0.005	<0.1
Bis (2-ethylhexyl) Phthalate, (DEHP)	117-81-7	<0.005	<0.1
Di-isononyl Phthalate, (DINP)	28553-12-0 , 68515-48-0	<0.005	<0.1
Di-n-butyl Phthalate, (DnBP)	84-74-2	<0.005	<0.05
Conclusion		Pass	-

Note 1. "<" denotes less than

2. "%" denotes percent by weight

3. The specification was quoted from regulation (EU) No. 10/2011 and its amendment (EU) No. 2020/1245.



3.12 N-Nitrosamines and N-Nitrosatable substances Content

Test Method: As per EN12868:2017, analyzed by high performance liquid chromatography with mass spectrometer detector (HPLC-MS-MS)

Test Conditions: 40 °C for 24 Hours

Test Item	CAS No.	RESULT [mg/kg]	
		Sample 001	
		N-Nitrosamines	N-Nitrosatable substances
N-Nitrosodimethylamine (NDMA)	62-75-9	<0.01	<0.1
N-Nitrosodiethylamine (NDEA)	55-18-5	<0.01	<0.1
N-Nitrosodipropylamine (NDPA)	621-64-7	<0.01	<0.1
N-nitrosodibutylamine (NDBA)	924-16-3	<0.01	<0.1
N-nitrosodiisnonylamine (NDiNA)	1207995-62-7	<0.01	<0.1
N-nitrosomorpholine (NMOR)	59-89-2	<0.01	<0.1
N-nitrosopiperidine (NPIP)	100-75-4	<0.01	<0.1
N-nitrosodibenzylamine (NDBzA)	5336-53-8	<0.01	<0.1
N-nitroso N-ethyl N-phenylamine (NEPhA)	612-64-6	<0.01	<0.1
NPYR+NMPPhA	-	<0.01	<0.1
Sum of above	--	<0.01	<0.1
Limit	--	<0.01	<0.1

Note:

1. "mg/L" denotes milligram per litre
2. "<" denotes less than

-- END OF TEST REPORT--