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Client: ZHEJIANG UKPACK PACKAGING CO, LTD

Contact Information: Tangjiazha village, Ditang Street Yuyao City, Zhejiang, China 315490

Buyer's name: n.a.

NINGBO SUREDING PACKAGING CO.,LTD Manufacturer's name:

2-2 TONGJI ROAD, SIMEN TOWN, YUYAO, ZHEJIANG

Components of Syrup dispenser pump

Identification/ UKS10

Model No(s): Components of Sauce dispenser pump

UKS30, UKR30, UKM30, UKFND30

Sample Receiving date: 2022-12-08

**Testing Period:** 2022-12-09 to 2023-01-10

**Delivery condition:** Apparent good, Samples tested as received

Test specification: Test conclusion:

Performed parameter(s) for the compliance with the following regulations concerning materials in contact with foodstuff:

**PASS** 

- Regulation (EC) No 1935/2004

Other Information:

For detailed sample picture please refer to last page

Not available

For and on behalf of TÜV Rheinland / CCIC (Ningbo)Co., Ltd.

2023-01-16 Chris W. W. Wang / Assistant Manager

Date Name / Position

Sample information is provided by customer. Test result is drawn according to the kind and extent of test sperformed.

This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety markon this or similar products.

'Decision Rule" document announced in our website (https://www.tuv.com/landingpage/en/qm-gcn/) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.



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Indication: Food contact

**Product:** Commodity, contact with foodstuff

# Description of test specimen

### Item

1 Components of Syrup dispenser pump

Components of Sauce dispenser pump

## 1. Material List:

Sample No.	Material	Color	Location
1	PE	Semi-transparent	Refer to photo
2	PE	Beige	Refer to photo
3	PP	Semi-transparent	Refer to photo
4	PP	White	Refer to photo
5	PP	Black	Refer to photo
6	PP	Blue	Refer to photo
7	PP	Golden	Refer to photo
8	PP	Dark blue	Refer to photo
10	SUS 304	Silver	Refer to photo
11	Glass	Transparent	Refer to photo

## Remark:

According to client's information all PE, PP and SUS 304 items in same color are produced of same material. Tests were performed on randomly selected items.

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# 2. Overall Results:

Test No.	Tested Item	Conclusion
1	Sensorial examination	PASS
2	Global Migration	PASS
3	Specific Migration of Metals	PASS
4	Colourfastness	PASS
5	Specific Release of Metals	PASS
6	Release of Lead and Cadmium from Ceramic Ware / Glassware	PASS
7	Screening of Plasticizer	PASS



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### 3. Results

# 3.1 Sensorial examination

Test method:

It is examined to the extent of food simulant being used, which comes into contact with the product, undergoes detectable changes in taste and smell.

For this purpose, the food simulant was stored in the product under the below mentioned time and temperature. Afterwards, the food simulant was examined by an appropriate number of tasters with regard to any divergence in smell and taste. Another test sample, which was used as a reference, was treated by the same way except that it had no contact with the product to be tested.

Before testing, the product had been cleaned according to the product's instruction manual or in the absence of such manual, by normal household cleaning.

The test is carried out on the basis of ISO 13302 by paired comparison test:

Evaluation scheme:

0 = No discernible deviation

1 = Barely discernible deviation

2 = Weak deviation

3 = Clear deviation

4 = Strong deviation

Limit: 3 (failed)

The following food simulants and conditions were applied:

Food simulant	Test duration / Temperature		
Water	10 day(s) / 40 °C		

Test No.:	1
Sample No.:	1
Parameter:	Result
Transfer of Smell:	0

Test No.:	2
Sample No.:	2
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0

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	T .
Test No.:	3
Sample No.:	3
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
Test No.:	4
Sample No.:	4
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
Test No.:	5
Sample No.:	5
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
Test No.:	6
Sample No.:	6
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
Test No.:	7
Sample No.:	7
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
	•
Test No.:	8
Sample No.:	8
Parameter:	Result
Transfer of Smell:	0
Transfer of Taste:	0
	<u>L</u>



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Test No.:	9
Sample No.:	10
Parameter:	Result
Transfer of Smell:	0



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# 3.2 Global Migration

Test method: The migratory behaviour is examined with reference to Commission Regulation (EU) No

10/2011 and its amendments.

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

The following food simulants and conditions were applied:

Food simulant	Test duration / Temperature
Acetic acid 3 %	10 day(s) <b>/</b> 40 °C
Ethanol 95 %	10 day(s) <b>/</b> 40 °C
Isooctane	2 day(s) <b>/</b> 20 °C

Test No.:	1(*2)(*3)						
Sample No.:	1						
Migration ratio:		167 ml / 1.0 dm <sup>2</sup>					
Parameter	Unit RL Migration Migration Algorithm Result Result						
Acetic acid 3 %	mg/dm <sup>2</sup>	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	
Ethanol 95 %	mg/dm <sup>2</sup>	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	
Isooctane	mg/dm <sup>2</sup>	2	7	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	

Test No.:		2(*2)(*3)						
Sample No.:		2						
Migration ratio:		167 ml / 1.0 dm <sup>2</sup>						
Parameter	Unit RL Migration Migration Algorithm Result Result					Limit		
Acetic acid 3 %	mg/dm²	2	3	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Ethanol 95 %	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Isooctane	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		

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Test No.:		3(*2)(*3)						
Sample No.:		3						
Migration ratio:		167 ml / 1.0 dm <sup>2</sup>						
Parameter	Unit	Unit RL Migration Migration Algorithm Result Result Result						
Acetic acid 3 %	mg/dm <sup>2</sup>	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Ethanol 95 %	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Isooctane	mg/dm²	2	4	2	<rl< td=""><td>10</td></rl<>	10		

Test No.:	4 <sup>(*2)(*3)</sup>						
Sample No.:	4						
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>						
Parameter	Unit RL Migration Migration Algorithm Result Result						
Acetic acid 3 %	mg/dm <sup>2</sup>	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	
Ethanol 95 %	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	
Isooctane	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10	

Test No.:	5(*2)(*3)							
Sample No.:	5							
Migration ratio:			167 ml	/ 1.0 dm <sup>2</sup>				
Parameter	Unit	Unit RL Migration Migration Agration Lim						
Acetic acid 3 %	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Ethanol 95 %	mg/dm²	mg/dm <sup>2</sup> 2 <rl 10<="" <rl="" td=""></rl>						
Isooctane	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		



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Test No.:	6(*2)(*3)							
Sample No.:		6						
Migration ratio:		167 ml / 1.0 dm <sup>2</sup>						
Parameter	Unit	Unit RL Migration Migration Algorithm Result Result						
Acetic acid 3 %	mg/dm²	mg/dm <sup>2</sup> 2 2 <rl 10<="" <rl="" td=""></rl>						
Ethanol 95 %	mg/dm²	mg/dm <sup>2</sup> 2 <rl 10<="" <rl="" td=""></rl>						
Isooctane	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		

Test No.:	7(*2)(*3)							
Sample No.:	7							
Migration ratio:			167 ml	/ 1.0 dm <sup>2</sup>				
Parameter	Unit	Unit RL Migration Migration Lim  Result Result Result						
Acetic acid 3 %	mg/dm²	mg/dm <sup>2</sup> 2 <rl 10<="" <rl="" td=""></rl>						
Ethanol 95 %	mg/dm <sup>2</sup>	mg/dm <sup>2</sup> 2 <rl 10<="" <rl="" td=""></rl>						
Isooctane	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		

Test No.:		8(*2)(*3)						
Sample No.:		8						
Migration ratio:		167 ml / 1.0 dm <sup>2</sup>						
Parameter	Unit	Unit RL Migration Migration Algorithms Result Result						
Acetic acid 3 %	mg/dm²	2	<rl< td=""><td><rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<></td></rl<>	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		
Ethanol 95 %	mg/dm²	mg/dm <sup>2</sup> 2 <rl 10<="" <rl="" td=""></rl>						
Isooctane	mg/dm <sup>2</sup>	2	3	<rl< td=""><td><rl< td=""><td>10</td></rl<></td></rl<>	<rl< td=""><td>10</td></rl<>	10		

## Abbreviations:

RL = Reporting Limit

mg/dm<sup>2</sup> = Milligram per square decimetre

ml/dm<sup>2</sup> = Mililitre per square decimetre

< = Less than



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### Remark:

- \*1 Acc. to DIN EN 1186-1 the following analytical tolerances have been observed:
  - 3 mg/dm² in migration tests using rectified olive oil or substitutes,
  - 1 mg/dm<sup>2</sup> in migration tests using aqueous simulants

A material or article that exceeds the overall migration limit by an amount not greater than the analytical tolerance mentioned above should therefore be deemed to be in compliance with the overall migration limit.

- \*2 Stability test is included in this test parameter.
- \*3 The migration results do not show increase between subsequent tests and therefore it meets the stability requirement.



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# 3.3 Specific Migration of Metals

Test method: The migratory behaviour was examined with reference to Commission Regulation (EU)

No. 10/2011 and its amendments. Determination by ICP-MS.

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

The following food simulant and condition were applied:

Food simulant	Test duration / Temperature
Acetic acid 3 %	10 day(s) <b>/</b> 40 °C

Test No.:				1 <sup>(*2)(*3)</sup>				
Material No.:		1						
Migration ratio:			167	ml / 1.0 dm <sup>2</sup>				
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit		
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1		
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04		
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.		
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1		
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.		
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.		
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05		
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5		
Iron	mg/kg	5	n.d.	n.d.	n.d.	48		
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.		
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6		
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6		
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.		
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02		
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5		
Europium	mg/kg	0.01	n.d.	n.d.	n.d.			
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.			
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.			
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.			
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05		

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Test No.:		2(*2)(*3)							
Material No.:	2								
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>								
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit			
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04			
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.			
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5			
Iron	mg/kg	5	n.d.	n.d.	n.d.	48			
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02			
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5			
Europium	mg/kg	0.01	n.d.	n.d.	n.d.				
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.				
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.				
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.				
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			



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Test No.:	3(*2)(*3)									
Material No.:	3									
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>									
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit				
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1				
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04				
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1				
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.				
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05				
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5				
Iron	mg/kg	5	n.d.	n.d.	n.d.	48				
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6				
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6				
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02				
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5				
Europium	mg/kg	0.01	n.d.	n.d.	n.d.					
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.					
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.					
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.					
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05				



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Test No.:		4(*2)(*3)							
Material No.:	4								
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>								
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit			
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04			
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.			
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5			
Iron	mg/kg	5	n.d.	n.d.	n.d.	48			
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02			
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5			
Europium	mg/kg	0.01	n.d.	n.d.	n.d.				
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.				
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.				
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.				
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			



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Test No.:	5(*2)(*3)									
Material No.:	5									
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>									
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit				
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1				
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04				
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1				
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.				
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05				
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5				
Iron	mg/kg	5	n.d.	n.d.	n.d.	48				
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6				
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6				
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.				
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02				
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5				
Europium	mg/kg	0.01	n.d.	n.d.	n.d.					
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.					
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.					
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.					
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05				



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Test No.:	6(*2)(*3)								
Material No.:				6					
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>								
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit			
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04			
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.			
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5			
Iron	mg/kg	5	n.d.	n.d.	n.d.	48			
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02			
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5			
Europium	mg/kg	0.01	n.d.	n.d.	n.d.				
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.				
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.				
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.				
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			



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Test No.:	7(*2)(*3)								
Material No.:		7							
Migration ratio:	167 ml / 1.0 dm <sup>2</sup>								
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit			
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04			
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1			
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.			
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5			
Iron	mg/kg	5	n.d.	n.d.	n.d.	48			
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6			
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.			
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02			
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5			
Europium	mg/kg	0.01	n.d.	n.d.	n.d.				
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.				
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.				
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.				
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05			



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Test No.:	8(*2)(*3)					
Material No.:	8					
Migration ratio:			167	ml / 1.0 dm <sup>2</sup>		
Parameter	Unit	RL	1 <sup>st</sup> Migration Result	2 <sup>nd</sup> Migration Result	3 <sup>rd</sup> Migration Result	Limit
Aluminium	mg/kg	0.1	n.d.	n.d.	n.d.	1
Antimony	mg/kg	0.01	n.d.	n.d.	n.d.	0.04
Arsenic	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Barium	mg/kg	0.1	n.d.	n.d.	n.d.	1
Cadmium	mg/kg	0.002	n.d.	n.d.	n.d.	n.d.
Total Chromium	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Cobalt	mg/kg	0.01	n.d.	n.d.	n.d.	0.05
Copper	mg/kg	0.5	n.d.	n.d.	n.d.	5
Iron	mg/kg	5	n.d.	n.d.	n.d.	48
Lead	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Lithium	mg/kg	0.1	n.d.	n.d.	n.d.	0.6
Manganese	mg/kg	0.1	n.d.	n.d.	n.d.	0.6
Mercury	mg/kg	0.01	n.d.	n.d.	n.d.	n.d.
Nickel	mg/kg	0.01	n.d.	n.d.	n.d.	0.02
Zinc	mg/kg	1	n.d.	n.d.	n.d.	5
Europium	mg/kg	0.01	n.d.	n.d.	n.d.	
Gadolinium	mg/kg	0.01	n.d.	n.d.	n.d.	
Lanthanum	mg/kg	0.01	n.d.	n.d.	n.d.	
Terbium	mg/kg	0.01	n.d.	n.d.	n.d.	
Sum of Lanthanide substances	mg/kg	0.01	n.d.	n.d.	n.d.	0.05

# Abbreviations:

RL = Reporting limit

n.d. = Not detected

mg/kg = Milligram per kilogram

ml/dm<sup>2</sup> = Mililitre per square decimetre

< = Less than

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## Remark:

- \*1 Single component with an amount below reporting limit was not considered by the calculation of the sum. In the case of all lanthanide substances europium, gadolinium, lanthanum and terbium were not detected, the result is stated n.d.
- \*2 Stability test is included in this test parameter.
- \*3 The migration results do not show increase between subsequent tests and therefore it meets the stability requirement.

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### 3.4 Colourfastness

Resolution AP (89) 1 on the use of colorants in plastic materials coming into contact Test method:

with food, Appendix III

Resolution AP (89) 1 on the use of colorants in plastic materials coming into contact with food - No transfer of colorants to foodstuffs is permitted Limit:

Test No.:	1	2
Sample No.:	2	5
Parameter Colourfastness to	Difference between blank and filter paper contacted with sample	Difference between blank and filter paper contacted with sample
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	3	4
Sample No.:	6	7
Parameter Colourfastness to	Difference between blank and filter paper contacted with sample	Difference between blank and filter paper contacted with sample
Water	No	No
Acetic acid 3 %	No	No
Ethanol 50 %	No	No
Oil	No	No

Test No.:	5
Sample No.:	8
Parameter Colourfastness to	Difference between blank and filter paper contacted with sample
Water	No
Acetic acid 3 %	No
Ethanol 50 %	No
Oil	No



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# 3.5 Specific Release of Metals

Test method: The sample preparation is performed with reference to "Technical Guide on Metals and

alloys used in food contact materials". The migratory behaviour is examined with reference to Chapter V, Article 18 of Commission regulation 10/2011 and its amendments. Presence of elements were detected by means of ICP-MS.

Limit: Technical Guide on Metals and alloys used in food contact materials

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Citric Acid 0.5 %	10 day(s) <b>/</b> 40 °C

Test No.:	1					
Sample No.:	10					
Volume to surface area ratio				375 ml		
-			Sum 1 <sup>st</sup>	+ 2 <sup>nd</sup> test	3 <sup>rd</sup> 1	est
Parameter	Unit	RL	Result	Limits (*2)	Result	Limits (*1)
Silver (Ag)	mg/kg	0.05	<rl< td=""><td>0.56</td><td><rl< td=""><td>0.08</td></rl<></td></rl<>	0.56	<rl< td=""><td>0.08</td></rl<>	0.08
Aluminum (AI)	mg/kg	0.1	<rl< td=""><td>35</td><td><rl< td=""><td>5</td></rl<></td></rl<>	35	<rl< td=""><td>5</td></rl<>	5
Cobalt (Co)	mg/kg	0.01	<rl< td=""><td>0.14</td><td><rl< td=""><td>0.02</td></rl<></td></rl<>	0.14	<rl< td=""><td>0.02</td></rl<>	0.02
Chromium (Cr)	mg/kg	0.01	0.02	1.75	<rl< td=""><td>0.25</td></rl<>	0.25
Copper (Cu)	mg/kg	0.5	<rl< td=""><td>28</td><td><rl< td=""><td>4</td></rl<></td></rl<>	28	<rl< td=""><td>4</td></rl<>	4
Iron (Fe)	mg/kg	5	<rl< td=""><td>280</td><td><rl< td=""><td>40</td></rl<></td></rl<>	280	<rl< td=""><td>40</td></rl<>	40
Manganese (Mn)	mg/kg	0.1	<rl< td=""><td>12.6</td><td><rl< td=""><td>1.8</td></rl<></td></rl<>	12.6	<rl< td=""><td>1.8</td></rl<>	1.8
Molybdenum (Mo)	mg/kg	0.02	<rl< td=""><td>0.84</td><td><rl< td=""><td>0.12</td></rl<></td></rl<>	0.84	<rl< td=""><td>0.12</td></rl<>	0.12
Nickel (Ni)	mg/kg	0.01	<rl< td=""><td>0.98</td><td><rl< td=""><td>0.14</td></rl<></td></rl<>	0.98	<rl< td=""><td>0.14</td></rl<>	0.14
Tin (Sn)	mg/kg	10	<rl< td=""><td>700</td><td><rl< td=""><td>100</td></rl<></td></rl<>	700	<rl< td=""><td>100</td></rl<>	100
Vanadium (V)	mg/kg	0.01	<rl< td=""><td>0.07</td><td><rl< td=""><td>0.01</td></rl<></td></rl<>	0.07	<rl< td=""><td>0.01</td></rl<>	0.01
Zinc (Zn)	mg/kg	1	<rl< td=""><td>35</td><td><rl< td=""><td>5</td></rl<></td></rl<>	35	<rl< td=""><td>5</td></rl<>	5
Arsenic (As)	mg/kg	0.002	<rl< td=""><td>0.014</td><td><rl< td=""><td>0.002</td></rl<></td></rl<>	0.014	<rl< td=""><td>0.002</td></rl<>	0.002
Barium (Ba)	mg/kg	0.1	<rl< td=""><td>8.4</td><td><rl< td=""><td>1.2</td></rl<></td></rl<>	8.4	<rl< td=""><td>1.2</td></rl<>	1.2
Beryllium (Be)	mg/kg	0.01	<rl< td=""><td>0.07</td><td><rl< td=""><td>0.01</td></rl<></td></rl<>	0.07	<rl< td=""><td>0.01</td></rl<>	0.01
Cadmium (Cd)	mg/kg	0.002	<rl< td=""><td>0.035</td><td><rl< td=""><td>0.005</td></rl<></td></rl<>	0.035	<rl< td=""><td>0.005</td></rl<>	0.005
Mercury (Hg)	mg/kg	0.003	<rl< td=""><td>0.021</td><td><rl< td=""><td>0.003</td></rl<></td></rl<>	0.021	<rl< td=""><td>0.003</td></rl<>	0.003
Lithium (Li)	mg/kg	0.02	<rl< td=""><td>0.336</td><td><rl< td=""><td>0.048</td></rl<></td></rl<>	0.336	<rl< td=""><td>0.048</td></rl<>	0.048
Lead (Pb)	mg/kg	0.01	<rl< td=""><td>0.07</td><td><rl< td=""><td>0.01</td></rl<></td></rl<>	0.07	<rl< td=""><td>0.01</td></rl<>	0.01
Antimony (Sb)	mg/kg	0.01	<rl< td=""><td>0.28</td><td><rl< td=""><td>0.04</td></rl<></td></rl<>	0.28	<rl< td=""><td>0.04</td></rl<>	0.04



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Thallium (TI) mg/k	0.0001	<rl< th=""><th>0.0007</th><th><rl< th=""><th>0.0001</th></rl<></th></rl<>	0.0007	<rl< th=""><th>0.0001</th></rl<>	0.0001
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### Abbreviations:

RL = Reporting Limit

mg/kg = Milligram per kilogram

< = Less than

## Remark:

\*1 Compliance is established on the findings on the third test for products intended for repeated use.

\*2 In addition, the sum of each metal in the first and second test should not exceed the sevenfold limit.



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### 3.6 Release of Lead and Cadmium from Ceramic Ware / Glassware

Test method: The test is performed reference to EN 1388-1:1995, EN 1388-2:1995 and DIN

51031:1986 respectively. The concentration of the elements is examined by means of

atomic absorption spectroscopy or ICP-MS.

Limit: Directive 84/500/EEC and its amendments / BS 6748:1986 + A1:2011

The following food simulant and condition was applied:

Food simulant	Test duration / Temperature
Acetic acid 4 %	24 hours / 22 °C

Test No.:	1			
Category:	1			
Sample No.:	11			
Parameter	Unit	Result	Limit (*1)	
Lead (Pb)	mg/dm²	< 0.02	0.8	
Cadmium (Cd)	mg/dm²	< 0.002	0.07	

## Abbreviations:

mg/dm<sup>2</sup> = Milligram per square decimetre

mg/l = Milligram per litre

< = Less than

### Remarks:

\*1 According to EU Directive 84/500/EEC and BS 6748:1986, articles in contact with food should not exceed the following limits

Category	Description	Lead	Cadmium
1	Articles which can't and articles which can be filled, the internal depth of which, measured from the lowest point to the horizontal plane passing through the upper rim, does not exceed 25 mm	0.8 mg/dm <sup>2</sup>	0.07 mg/dm <sup>2</sup>
2	Other articles which can be filled	4.0 mg/l	0.3 mg/l
3	Cooking ware; packaging and storage vessels having a capacity of more than three litres	1.5 mg/l	0.1 mg/l



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# 3.7 Screening of Plasticizer (#)

Test method: Extraction and Detection with reference to CPSC-CH-C1001-09.3. Screening list of

plasticizers acc. to table 1.

Limit: Commission Regulation (EU) No 10/2011 and amendments

Test No.:			1		
Sample No.:			1		
Parameter	CAS No.	Unit	RL	Result	Limit (1, 2)
Benzylbutyl phthalate (BBP)	85-68-7	%	0.01	n.d.	0.1
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.01	n.d.	0.1
Dibutyl phthalate (DBP)	84-74-2	%	0.01	n.d.	0.05
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.01	n.d.	0.1
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.01	n.d.	0.1

### Abbreviations:

n.d. = Not detected (<Reporting Limit)

RL = Reporting Limit

% = Percentage

### Remark:

- \*1 If used as a plasticizer the following restrictions apply:
  - BBP, DINP, DIDP: Can be used as a) as a plasticizer in repeated use materials and articles or b) as a plasticizer in single-use materials and articles containing non-fatty foods except for infant formulae and follow-on formulae as defined by Directive 2006/141/EC or processed cereal-based foods and baby foods for infants and young children as defined by Directive 2006/125/EC
  - DEHP, DBP: Can be used as a plasticizer in repeated use materials and articles contacting non-fatty foods

Further limitations concerning the specific migration of the respective substance still apply.

\*2 If used as a technical support agent the total content limitation of the respective substance within the final product apply as indicated in the table above.

Table 1: Screening List of Plasticizer				
Plasticizer Name CAS No.				
Di-n-pentylphthalat (DnPP)	131-18-0			
Benzylbutyl phthalate (BBP)	85-68-7			
Diethylhexyl phthalate (DEHP)	117-81-7			
Dibutyl phthalate (DBP)	84-74-2			

Plasticizer Name	CAS No.
Pentyl-iso-pentylphthalat	84777-06-0
Bis-(2-methoxyethyl)phthalat	117-82-8
Diethylhexylterephthalat (DEHT)	6422-86-2
Di-(2-butoxyethyl)phthalat	117-83-9

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Diisononyl phthalate (DINP)	28553-12-0,	
Disononyi primalate (Distr)	68515-48-0	
Diisodecyl phthalate (DIDP)	26761-40-0,	
Disouecyi primaiate (DiDF)	68515-49-1	
Di-n-octylphthalat (DNOP)	117-84-0	
Dimethylphthalat (DMP)	131-11-3	
Diethylphthalat (DEP)	84-66-2	
Butyl-i-butylphthalat	17851-53-5	
Trimethylpentandiolisobutyrat (TXIB)	6846-50-0	
Diisononyladipat (DINA)	33703-08-1	
Acetyltributylcitrat (ATBC)	77-90-7	
Diethylhexyladipat (DEHA)	103-23-1	
Hexamoll®	166412-78-8	
Mesamoll®	91082-17-6	
Triphenylphosphat	115-86-6	
Tri-o-kresylphosphat	78-30-8	
Tri-m-kresylphosphat	563-04-2	
Tri-p-kresylphosphat	78-32-0	
Butylbenzoat	136-60-7	
Di(propylen glycol) dibenzoat, DPGDB	27138-31-4	
Di(ethylen glycol) dibenzoat, DEGDB	120-55-8	
LG FLEX EBN	610787-77-4	
LG FLEX BET	610787-76-3	
Tri(ethylhexyl)trimellitat, TOTM	3319-31-1	
2-Ethylhexyldiphenylphosphat	1241-94-7	
Di iga hantulahthalat DILIAD	90937-19-2,	
Di-iso-heptylphthalat, DIHeP	71888-89-6	

Diallylphthalat	131-17-9	
Dicyclohexylphthalat (DCP)	84-61-7	
Bis-(3,5,5-trimethylhexyl)phthalat	14103-61-8	
Dicapryladipat	108-63-4	
1 - 7	1190-39-2,	
Di-n-butylmaleat (DBM)	105-76-0	
Di-(2-ethylhexyl)maleat	142-16-5	
Butylstearat	123-95-5	
Dimethyladipat	627-93-0	
Dibutyladipat	105-99-7	
Diisodecyladipat	27178-16-1,	
	27193-86-8	
Di(2-(2-butoxyethoxy)ethyl)adipat	141-17-3	
Bis(2-butoxyethyl)adipat	141-18-4	
Stearylstearat	2778-96-3	
Di-n-propylphthalat	131-16-8	
Di-n-hexylphthalat, DNHP	84-75-3	
Di-n-heptylphthalat	3648-21-3	
Di-n-nonylphthalat, DnNP	84-76-4	
Di-n-decylphthalat	84-77-5	
Di-n-undecylphthalat	91082-17-6	
Diisoundecylphthalat, DIUP	96507-86-7	
Di(2-propylheptyl)phthalat, DPHP	53306-54-0	
Diisooctylphthalat, DIOP	27554-26-3	
Diisobutylphthalat, DIBP	84-69-5	
Diisopentylphthalat DiPP	605-50-5	

(#)- Test sub-contracted to a laboratory which complies with the requirement of ISO/IEC 17025:2017.



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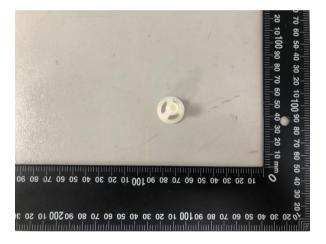
# 4. Sample picture(s):



Sample 1



Above samples which are by client's declaration made of same material as tested Sample 1.



Sample 2



Sample 3



Above samples which are by client's declaration made of same material as tested Sample 3.



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Sample 4



Above samples which are by client's declaration made of same material as tested Sample 4.



Sample 5



Above samples which are by client's declaration made of same material as tested Sample 5.



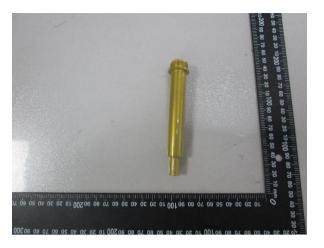
Sample 6



Above samples which are by client's declaration made of same material as tested Sample 6.



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Sample 7



Above samples which are by client's declaration made of same material as tested Sample 7.



Sample 8



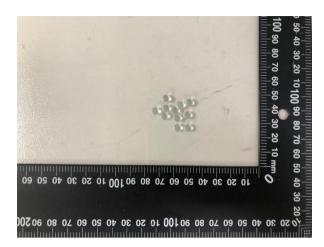
Sample 10



Above samples which are by client's declaration made of same material as tested Sample 10.



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Sample 11







UKS30



UKR30



UKM30 UKFND30

### General Terms and Conditions of Business of TÜV Rheinland in Greater China

- These General Terms and Conditions of Business of TÜV Rheinland in Greater China ("GTCB") is made between the client and one or more member entities of TÜV Rheinland in 1.1 These General Terms and Conditions of Business of TÜV Rheinland in Greater Chira ("GTCB") is made between the clientand one or more member entites of TÜV Rheinland; The Greater Chira as applicable as the case may be ("TÜV Rheinland"). The Greater Chira hareofrefers to Mainland China, Hong Kong and Talwan. The clienthered includes:

  (a) a natural person capable to form legally binding cortracts under the applicable laws who concludes the contractoritor the purposeod daily use;

  (ii) the incorporated or unincorporated entity duly organized validly existing and capable form legally binding contracts under the applicable law.

  1. The following isrms and conditions apply to agreed services including consultancy services, information, deliveries and similar services as well as arcillary services andother security obligations provided within the scope of contract performance.

  1.3 Any standard serms and conditions of the clientof any nature shall notapply and shall heating part of the contractieven if TÜV Rheinland does not explicitly object to them. Services and the contractieven if TÜV Rheinland does not explicitly object to them separately to each individual case.

  2. Quotations
  Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by

- b flutre contracts with the client without TUV Rheinland having to reter to mem separacy in each individual case.

  Quotations

  Unless otherwise agreed, all quotations submitted by TÜV Rheinland can be changed by TÜV Rheinland without notice prior to its acceptance and confirmation by the other party.

  Coming into effect and duration of contracting upon the quotation letter of TÜV Rheinland or a separate contractual document being signed by both contracting parties, or upon the works requested by the client being carried out by TÜV Rheinland if the diert instructs TÜV Rheinland without receiving a quotation from TÜV Rheinland if all costion. TÜV Rheinland is in its sole discretion, entitled to acceptite order by giving witten notice of such acceptance (including notice sert via electronic means) or by performing the requested services.

  The contractiremstarts upon the coming into effect of the contractire cere with added as a such acceptance with added to the contractive contractive of the contractive contractive of the contractive contractive of the contractive contract

- by the term provided or in the control of the contr
- assessmentunless oftenties agreed in writing or it mandatory provisions require a sample of the procedure to be belowed.

  4.4 On execution of the work there shall be no simultaneous assumption often organization of the correctness (poperquality) and working order for either tested or examined parts nordfle installation as a whole and its upstream and/or downstream processes, organisations, use and application in accordance with regulations, nor of the systems on which in installation is based. In particular, TUV Rheinland shall assume no responsibility for the construction selection of materials and assembly of installations examined, nor for their use and application in accordance with regulations, unless these questions are expressly cowed by

- selection of materials and assembly or insulations examined, not be application in accordancewith regulations, unless shees questions resexpressly cowerd by the contract.

  In the case of inspection work, TÜV Rheinland shall not be responsible for the accuracy or checking of the salety programmes or salety regulations on which the inspections are beautiness otherwise expressly agreed in writing, unless otherwise expressly and the client of the agreed services. The services to be provided by TÜV Rheinland under the contract are agreed exclusively with the client. A contract of third parties with the services of TÜV Rheinland as well as making available of and justifying confidence in the work results lest reports, test results, own work results in full or in extracts to third parties in accordance with clause 114. The clienturaderstands and agreed services. This also applies lifter clientpasses on work results in full or in extracts to third parties in accordance with clause 114. The clienturaderstands and agreed services. The services have the results approached the client as a contract of the parties of the contract of the parties of Including but not imited to any testing and certification services to be provided by missing and certification bodies). TVP Rheinland will provide the client as agent for sunrelevants ervices, in order to achieve the purpose of the contract the clienthereby agest and TVV Rheinland can also such entrust to a finite part by provide agenty-services, but TVV Rheinland shall not bear any responsibly and/or risk for any services to be provided by any trip provides and the provided by any company on behalf of the client to entrust to the services to be entrusted and/or applied for by our company on behalf of the client to entrust to the terms under the contract. If the client is required to conduct any anual review/surveillance of the relevant testing and/or certification service results and psy additional fees in accordance with the relevant laws and regulations or the terms under the contract. If the client is required to conduct any anual additional fees in accordance with the relevant laws and regulations or the testing and certification rules such fees are not within the scope of the contract price, the clientshall timely perform the obligation of such annual review burveillance and pay the corresponding frees. If the clientshall timely perform the obligation of such annual review burveillance and pay the corresponding frees. If the clientshall timely perform the obligation of such annual review burveillance such as failure/suspending-cancilation/invalidity of testing and/or certification results, which shall rice borne-fished by TUV Rheinland to deliver the service contentagreed in the contract if the client requires TUV Rheinland to deliver.
- bornelable by TÜVRheinland.
  49For the service contentagreed in the contract if the client requires TÜVRheinland to deliver relevant test samples, data, etc. to any overseas laboratory or other places or sites to be designated by the client TÜVRheinland shall not take any responsibilities or risks to ray problems during suchdelivery and the transportation process (including but not limited to any problems during suchdelivery and the transportation process (including but not limited to any problems during suchdelivery and the transportation process (including but not limited to any problems during suchdelivery and the transportation process (including but not limited to any loss or dramages of the samples and/orther materials, etc.). Besides, the relevant registrates all be been described by the client. They shall only be binding if being confirmed as binding by TÜVRheinland in writing.
  5.2 If binding periods of profromance havebeen agreed, these periods shall not commence until the client has submitted all required documents to TÜV Rheinland.

- 5.3 Articles 5.1 and 5.2 also apply, even without express approval by the client, to all extensions of agreed periods/dates of performance not caused by TUVR heinland.
- of agreed periods idates of performance not caused by TDV Rheinland.

  TÜV Rheinland in ortrespons blo for a delay in performance, in particular if he client has not fulfilled his duties to cooperate in accordance with clause 6.1 or has not done so in time and in particular, has not provided TDV Rheinland with all documents and information required for the periormance of TDV Rheinland is delayed duties uniforceeche click commissions. If the performance of TDV Rheinland is delayed duties uniforceeche click commissions such as force majeure, sit kies, business disruptions, governmental regulations, transport obstates, etc. TDV Rheinland is entitled to postpone performance for a reasonable perior different which corresponds afterest to the duration of the hindrance plus any time period of time which corresponds afterest to the duration of the hindrance plus any time period which my
- which corresponds at least to the duration of the hindrance plus any time period with may be required to resume performance. If the client is obliged to comply with legal officially prescribed and/or by the acceptor prescribed deadlines, it is the client is comply with the legal and/or officially prescribed readlines, it is the client to comply with the legal and/or officially prescribed deadlines. TOV Rheinland assumes no responsibility in this respect unless TOV Rheinland expressly agreed in writing specifically stating that ensuring the deadlines is the contracted.

- expressly agreed in writing specifically stating that ensuring the deadlinesis the contractual obligation of 110 Rheinland.

  The client's obligation to cooperate
  The clienths all guaranes that all cooperation required on its part, its agents or third parties will be provided in good time and at no cost to TÜVR heinland.

  Design documents, supplies, auxiliary staff, etc., necessary for performance of the services shall be made available free of charge by the client. Moreover, collaborative action of the clientmust be undertaken in accordance with legal provisions, standards, safely regulations and accident prevention in structions. And the client represents and warrans that it has required statutory qualifications; the product service or management system to be certified complies with applicable laws and renulations: and
- and regulations; and it doesn't have any illegal and dishorest behaviours or is not included in the list of Enterprises with Serious Blegal and Dishonest Acts of People's Republic of China. If the client breaches the alores aid representations and warraries. TUV Rheiritard is nitided to 1) immediately terminate the contractorider withoutprior notice; and ij) withdeas et suce the sting reportice rifications is flavour. redon accountion work havings be a redon or e clients hall bear any additional cost into rincomplete information provided by or tack of oper cooperation from the client. Even where a fixed or maximum price is agreed, TÜV heinland shall be entitled to charge extra fees for such additional expense.

- Khemiand s has be entered to transpecture. The first second of performance is not laid down in writing when the order is placed, invoicing shall be sased on costs actually incurred. Into price is agreed in writing, invoicing shall be made in accordance with the price is toff TUVR heinland valid at the time of performance. Unless otherwise agreed, who shall be invoiced according to the progress of the work. If the execution of an order extends overmore than one month and the value of the contact or the agreed fixed price executed \$2.200.00 or equivalent value in local currency, TUV Rheinland may demand payments on account or in installaness.

- Rheinland may demand payments on accounts in insertional managements.

  8.1 All invoice amounts shall be due for payment within 30 days of the invoice date without deduction on receiptofthe invoice. No discounts and rebases shall be grarted.

  8.2 Payments shall be made to the bank accountofTUVRheinland as indicated on the invoice and clientorumbers.

  8.3 In cases of default of payment, TUVRheinland shall be entitled to claim deault interest at the applicable shorterm loan interest state buildly announced by a reputable commercial tark in the country where TUVRheinland is located. At the same time, TÜV Rheinland resews
- in the country where TÜV Rheinland is located. At the same time, TÜV Rheinland reserves the right to claim further damages, ould the client default in payment of the invoice despite being granted a reasonable grace period, TÜV Rheinland shall be entified to cancel the courtant, which was the conflict and damages for non-performance and refuse to conflict performance of the contract, he provisions set for thin strictle 8.4 shall also apply in cases involving returned cheques, cossasion of payment, commencement of insolvency proceedings against the client's assets or cases in which the commencement of insolvency proceedings has been distinised due to lack of assets.

  Objections to fin invoice or TÜV Rheinland shall be submitted in writing within two weeks of TÜV Bellind and the payment in the commencement of the proceedings and the proceedings and the client's assets or the proceedings and the p

- injortne invoice.
  Rheniland shall be entitled to demand appropriate advance payments.

  8.8 TUVRheinland shall be entitled to raise its fise sat the beginning of a month if overheads, andfor purchase osciab have increased, in this case, TUV Rheinland shall notify the clientin writing of the rise in tees. This notification shall be issued one morth prior to the date on which the rise in fees shall come into effect (period of notice of

- changes in fees). If the rise in fees remains under 5%per contractual year, the clien shall not have the right to terminate the contract. If the rise in fees exceeds 5% par contractual year, the client shall be enitted to terminate the contract by the end of the period of notice of changes in fees. If the contract is noterminated, the changed tess shall be deemed to have been agreed uponly the time of the expiry of the notice petic Only, legally established and undisputed claims may be offset against claims by TOV Rheinland. hanger in face) If the rise in face remains under 5% per contractual year the cli
- Rheinfand.

  TÜVR heinland shall have he right at all limes to setolf any amount due or payable by the client, including but not limited to setolf against any fees paid by the client under any contracts, agreement and/or ordersquoisoins reached with TÜVR heinland.

  Contract of work work result ordered which is complete in itself may be presented by TÜV Rheinland.

  Rheinland for acceptance as an instalment. The client shall be obliged to accept it
- nediately. ceptance is requiredor contractually agreedin an individual case, this shall be deemed to
- have taken place two (2) weeks after completion and handoverof the work, unless the c refuses acceptance within this period stating at least one fundmental breach of contrac eluses acceptance with the period calling a company of the period calling a company of the period calling acceptance due to insignificant breach of contract by TÜV
- Rheinland. acceptance is excluded according to the nature of the workperformanceof TÜVR heinland 9.4
- If acceptance is excluded according to the nature of the workpertomanceof TUV knemary, the completion of the work shall take its place.

  During the Follow-Audit stage, if the client was unable to make use of the time windows provided for within the scope of acertification procedure for auditing/performance by TUV Rheinland and the certificate is therefore to be withdrawn (e.g. performance of surveilland audits), or if the client cancels or pospones a confirmed audit date within two (2) wests before the agreed date, TUV Rheinland is entitled to immediately charge a lump-sm compensation of 10% of the order amount as compensation for expenses. The client reserves the right to prove that the TÜV Rheinland has incurred no damage what sower? 9.5
- reserves the right by rove hatthe TUV Kheinland has incurred no damage whatsower only a considerably lower damage han the above lump sum.

  The reserve the reserve

- sum.

  10. Confidentiality

  10. For the purpose of these terms and conditions, "confidential information" means all know how trades secrets, documents, images, drawings, expertise, information, data, test results, reports, samples, project documents, pricing and financial information, customer and suprier information, and marketing techniques and materials tangible or inlangible, that are sugried, transferred or otherwise disclosed by one Party (the "disclosing party") to the other Party the "receiving party") in withing or orally in printed or electronic formation. Confidential information are pricingly and party in a continuation or orally in printed or electronic formation. Confidential information of services by TUVR heimand. TUVR heimand is entitled to store, use, further develop and pass on the data obtained in connection with the provision of services for the purposes of developing new services, improving services andrainly sing he provision of services for the purpose of developing new services improving services andrainly sing he provision of services for the purpose of developing new services improving services andrainly sing he provision of services for the purpose of developing new services in provision of services of the repurpose of developing new services in provision of services of the repurpose of the data obtained before passing if onto the receiving party. The assem applies to confidential information transmitted by e-mail it confidential information is disclosed or ally the receiving party shall be appropriately informed in deletions and the disclosing page yield refine in
- Very considerable above positional and no be indecisiving pasty. The same applies to confiderable information transmited by e-mail. It confiderable information is disclosed really, he reading party shall be appropriately informed in advance and the disclosing pasty shall be appropriately informed in advance and the disclosing pasty shall be appropriately informed in advance and the disclosing pasty shall confirm in writing the confiderable invariance of the information. The client shall avoid using any third party platform and/or system (e.g. Wechat etc. Unauthorized by TÜV Rheinland by send any confiderable information to TÜV Rheinland and instead, the client shall send any confiderable information to company email of TÜV Rheinland amployees through its company email. If the client suffers from any losses or damages due to any field or leakages to be caused by the adoption of any unauthorized confiderable information shall be aviated for any companish in bit in the confiderable information which the disclosing party transmits or otherwise disclosus to the suffers of the confiderable information which the disclosing party transmits or otherwise disclosus to the confiderable information which the disclosing party is many only the confiderable information which the disclosing party transmits or otherwise disclosus to the confiderable information which the disclosing party with any companishment of the confiderable information which the disclosing party with sufficient to the confiderable information which the disclosing party with the same level of confiderable information which the disclosing party is the purposes of the contract of TÜV Rheinland severable to pass on confiderable information, inspection reports or documentation to the government authorities, judicial court, accreditation bodies or third parties that are involved in the performance of the contract.

  O must be readed by the receiving party with the same level of confiderable in the service of the contract of the contract. The receiving party with

- violation of this confidentiality clause by the receiving party; or b) it was disclosed to the receiving party by a third party entitled to disclose this information
- or c) the receiving party already possessed this information prior to disclosure by the disclosing
- or c) the receiving party already possessedthis information prior to disclosure by the disclosing party; or d) the receiving party developeditiself, irrespective of disclosure by the disclosing party, stall not be deemed to constitute "confidential information" as defined in this confidential (classe 10.5A) confidential information" as defined in this confidential (classe 10.5A) confidential information and interest the property of the disclosingparty. The sectivity gay hereby agrees to immediately (i) eturn all confidential information, including all cigates, the hereby agrees to immediately (i) eturn all confidential information, including all cigates, the information, including all cigates to the disclosing party in writing, atany time if so requested by the disclosing party but at the talest and without special requestates the traination or explicy of the contract. This does not extend to include reports and certificates prepared for the client solely for the purpose of utilities the obligations under the contract which shall remain with the client However, ITU/O Rheimland is entitled to make the copies of such reports, certificates and confidential information that forms the basis for preparing these reports and certificates in outs to evidence the correctness of its results and for general documentation purposes required by procedures of ITU/O Rheimland.

  10.7 From the start of the contract and for a period of three years after termination or expiry of the contract. the receiving party shall maintain stict secrecy fall confidential information and shall not disclose this information to any third parties or use it for itself.

  11. TOW Rheimland shall retain all exclusive ecopyrights in the reports expert reports depote the contract with the contract of the work results for individual or a great experts. The standard of the work results in the individual or a separate agreement. As the owner of the copyrights, types of use of the contract of the contractable properts by the parties in a separate agreement.

- Individual cases.

  applicable laws, regulations and relevantrules (muoung occurrent testing and certification rules, etc.).

  TUV Rheinland may revoke a none given approval according to clause 11.5 atanytin stating reasons. In this case, the client is obliged to stop the transfer of the wimmediately at his own expense and, as far as possible, to withdray ubblications. The consent of TUV Rheinland to publication or duplication of the work results does the client to use the corporate logo, corporate design or testiceffication man

### Rheinland 12. Liability of TÜVR heinland

- bibly of TUVR heinland a breach of contractual obligations or bort, he liability of TÜVR heinland for all damags, losses and reimbursement of expenses caused by TÜVR heinland, is legal representatives and/or employees shall be limited by: (i) in he case of a contract with a fixed overall he, the times the overall ne for the entire contract (ii) in he case of a contract or annually lecurity services, the agreed annual fee; (iii) in the case of a contract expressly changed on a lime and material basis, a maximum of 20,000 Euro or equivalentamount in local currency, and (iv) in the case of a framework agreement that provides for the possibility of placing individual orders, three times of the Be to the individual order under with the damages of losses. ve, in the event that the total and accur nave occurred redwinds among the above, mit never event active but and accommend adult according to the foregoing provisions exceeds 2.5 Million Euro or equivalent amount in local currency, the ball and accommended liability of TDV Rheinland shallbe of limited to and shall not exceed the said 2.5 Million Euro or equivalent amount in local
- currency.

  12.2 The limitation of liability according to article 12.1 above shall not apply to damages and/or losses caused by malice, intent or gross regigence on the part of TÜV Rheinland or its vicarious agents. Such limitation shall not apply to damages for a person's death, physical
- injury or liness.

  12.3 in cases in volving a fundamental breach of contract, TÜVR heinland will be liable even whee minor negligence is involved. For this purpose, a fundamental breach is breach d'a material contractual obligation, he performance of which permits he due performance of he contract. Any claim for damages for a fundamental breach of contract shall be limited to the amount of damages reasonably but reseen as a possible consequence of such breach cloratract the time of the breach (reasorably foreseeable damages), unless any of the circumstross described in article 12 applies.
- 12.4 TÜV Rheinland shall not be lable for the acts of the personnel made available by the clierto support TÜV Rheinland in the performance of its services under the contract unless such personnel made available se regarded avvicabusagend TÜV Rheinland. If TÜV Rheinland is not lable for the acts of the personnel made available by the clientunder the foregoing provision, the clientshall indermily TÜV Rheinland against any claims madeby third prises arising from or in connection with such personnels acts.

  12.5 Unless otherwise contract badyagered in writing, TÜV Rheinland shall only be liable under the contract to the claims largered in writing, TÜV Rheinland shall only be liable under the contract to the close the contract to the close the contract to the close shall be contract to the close to the close.

- 13.Export control
  - port control

    When passing on the services provided by TÜVR heinland or parts thereof to third partic
    Greater China or other regions, the client must comply with the respectively applic
    regulations of national and international export control law.

ne periormance or a contract will the client is subject to the proviso that there are to obstacles to performance due to national or international foreign trade legislations or embargos and/or sanctions. In the event of a violation, TUV Rheinland shall be entitled to terminate the contract with immediate effect and the client shall compensate for the losses.

consequences to performence due to hastonal or international breign frade legislations or embrargos and/or sanctions. In the eventrial or violation, TUV Rheinland shall be entitled to terminate the contract with immediate effect and the clientshall compensate for the losses the contract with the contract with the contract the contract with the contract t

- Reinland AG, civ Group Data Protection Officer, Am Grauen Sein, 151105 Cologne Germany.

  15. Reg many:

  15. Reg many:

  15. Reg many:

  15. Reg many:

  15. The test samples submitted by the clients TDVR heinland for testing will be scrappediollowing testing or will be returned to the clientat the clients expense. The only exceptions are test samples, which are placed in storage on the basis of statutory regulations or of another agreement with the client.

  15. Charges apply if the test samples are storage on the basis of statutory regulations or of another agreement with the client.

  15. Charges apply if the test samples are storaged to the client in the quotation.

  15.3. If reference samples into storage will be disclosed to the client in the quotation.

  15.3. If reference samples or documentations must be made available to TUV. Rheinland upon request promptly and free of charge. If the client, in response to such a request is incapable of making available the reference samples andor documentation, any liability, claims for material and pecuniary damage resulting from the respective testing and testing the control of the contract of the cont

- ne selfgence.

  16. Termanian on the contract

  16. Termanian on the contract and the dient are entitled to termine

  the contract has entirely or, in the case of services combined none contract each of the

  combined parts of the contract hall wild wild and independently of the contractually agreed term

  The notice period shall be shortened to six (6) weeks in case TUV Rheinland is preverted

  from performing the services due to a lossor a suspension of its accreditation or notification.

  16.2 For good causes, TUV Rheinland may consider giving a written notice to the client to terminate

  the contract which includes buntoritimed to the following:

  a) the client does not immediately notify TUV Rheinland of changes in the conditions within the

  company which are relevant for certification or signs of such changes;

  b) the client misuses the certificate or certification mark or uses it in violation of the contract;

  c) in the event of several consecutive delays in paymert (alleast three times);

  d) a substantial deterioration of the financial circumstances of the client cours and as a result

  the payment claims of TUV. Rheinland under the constracter consideably endangered and

- b) the clientrinisuses the certificate or certification mark or usestitin vibiation of the contract:

  () in the event of several consecutive delays, in paymert (alteast the extense);

  () a substantial deterioration of the financial circumstances of the clientoccurs and as a resit the paymert claims of IUV Rheintand under the contract are considerably endanged and e) in the event of any serious misrepresentation, be they intentional fast of organization of the managers, employees or agents of the client.
  f) if TÜV Rheintand, br reasons beyond its control, is temporarily or finally notable or entitled to continue or finalize the performance of the service, e.g. in case of force majoures or government interference, sanctions, loss of accrediation or notification, or other.
  16.3h the eventof arms the performance of the service, e.g. in case of force majoures of the control termination with written notice by TUV Rheintander good cause. TUV Rheirtand shall be entitled to a lump-sum claim for damages against the client if the conditions of a control termination with written notice by TUV Rheintander good cause. TUV Rheirtand shall be entitled to a lump-sum claim for damages against the client if the conditions of a control termination with written notice in the conditions of a control termination of the conditions of a control termination of the conditions of a condition of the conditions of
- premises such as boyout state and not-congression, constraint the substantial premises.

  17.3. The Part of the Constraint of the State of the State

- may be terminated by emer Ferry stre-ourselve-over-opposite.

  18.1 Ardship

  18.1 The Parties are bound to perform heir contractual duies even if events have rended performance more onerous than could reasonably have been anticipated at the time of the conclusion of the contract.

  18.2 Nowinstanding paragraph 1 of this Clause, where a Party provesthat.

  (a) the continued performance of its contractual duies has become excessively onerous dust on eventheyon dis reasonable contractwint it could not reasonably have beenex pacied to have taken into accountat the time of the conclusion of the contract and that.

  (b) it could not reasonably have avoided or over come the event or its consequences, the Parties are bound, within a reasonable time of the invocation of this Clause, to negotiate alternative consequences that alternative which reasonable time of the invocation of this Clause, to negotiate alternative consequences that alternative consequences that the consequences the event.

- (b) it could notreasonably have avoided or overcome the eventor its consequences, the Padies are bound, within a reasonable time of the invocation of this Clause, to negolistic alternative contractual terms which reasonably allow to overcome the consequences of the event.

  18.3. Where Clause 18.2 applies, but where the Parties have been unable to agree alternative contractual terms as provided in hatparagraph, the Party invoking this Clause is erified to terminate the contract but cannot request sadapsishon by the judge or arbitrator withouthe agreement of the other Party.

  19. Partial invalidity, writter form, place of prisdiction and dispute resolution.

  19.1 All amendments and supplements must be in writing in order to be effective. This also applies 19.1 All amendments and supplements must be in writing in order to be effective. This also applies 19.2 Should one or several of the provisions underthe contractand of these terms and conditions be or become ineffective, the contracting parties shall replace the invalid provision with a legally valid provision in the contracting parties shall replace the invalid provision in legal and commercial terms.

  19.3 Unless otherwise stipulated in the contract, the governing law of the contractand these terms and conditions shall be chosen following the rules as below:

  19.3 If TUV Rheinland in question is legally registered and existing in the People's Republic of China, the contracting parties hereby agree that he contractand these terms and conditions shall be qoverned by the laws of Talwan.

- b) If IUV kneinland in quession is egaply registered and use sensy in various, it is owned to parties hereby agree hat the contract and these lemms and conditions shall be governed by parties hereby agree hat the contract and these lemms and conditions shall be governed by agree hat the contract and these lemms and conditions shall be governed by help as the parties hereby agree hat the contract and these lemms and conditions shall be governed by the laws of Hong Kong.
  9.4 Any dispute in connection with the contract and these lemms and conditions or the execution thereof shall be settled friendly through negotiations.
  Unless otherwise significant in the contract if no settlementor no agreement in respect of the extension of the negotiation period can be reached within two months of the arising of the dispute, the dispute shall be submitted.
  a) in the case of TÜV Rheinland in question being legally registered and existing in the Pequids. Republic of China, to China hermational Economic and Trade Arbitation. Commission Republic of China, to China hermational Economic and Trade Arbitation. Commission that the case of TÜV Rheinland in question being legally registered and existing in Talw and the arbitration is submitted. The arbitration is allowed the arbitration is submitted. The arbitration is not changing as appropriately chace they the claiming party.
  b) in the case of TÜV Rheinland in question them arbitration accordance with its then currer Rules of Arbitration Riskon Centre (HKAC) to be settled by arbitration under the HKAC.
  Administerad Arbitration Centre (HKAC) to be settled by arbitration under the HKAC.
  Administerad Arbitration Rules in throw when the Note of Arbitration is submitted. The arbitration is commission thought and be final and binding on both parties. The arbitration fee shall be borne by the losing party.