

**Test Report No.: 68.431.21.01855.01B**

**Dated: 2021-04-30**



**Applicant** : JARLSON GmbH  
5350 Strobl, Austria

**Sample Description** : Tritan Lunch Box

**Product type/ End use** : Lunch Box

**Style No. / Name / Design No.** : LBOX001

**Buyer** : JARLSON GmbH

**Country of Origin** : China

**Country of Destination** : Austria

**Test Sample Receipt Date, Location** : 2021-03-17, Shenzhen

**Test Period, Location** : From 2021-03-18 to 2021-04-25, Shenzhen

**Test Result(s)** : Refer to Section 3



**Laboratory:**  
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**Purpose Of Examination / Conclusion:**

<b>Test Requested:</b>	<b>As specified by client, to test per the selected requirement(s) for the tested item(s) as stated in the German Food &amp; Feed Acts LFGB (§ 30 &amp; 31) and Regulation (EC) No.1935/2004</b>
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No.	Test Item(s)	Conclusion
1	<b>Overall Migration</b>	Pass
2	<b>Specific Migration of Heavy Metals</b>	Pass
3	<b>Specific Migration of Phthalates</b>	Pass
4	<b>Specific Migration of Bisphenol A (BPA)</b>	Pass
5	<b>Extractable Components</b>	Pass
6	<b>Volatile Organic Matters</b>	Pass
7	<b>Peroxide</b>	Pass
8	<b>Total Platinum Content Test</b>	Pass
9	<b>Total Heavy Metals (Sb, Ga, Ge, Co, Li, Mn, Zn, Ti, Pb, P) Content</b>	Pass
10	<b>Sensory Test</b> Test for compliance with German Food and Feed Acts LFGB Section 31 and Regulation (EC) No. 1935/2004 Article 3(1)	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%.
- (5) All results are transferred from test report 68.431.21.01855.01A issued on 2021-04-30.

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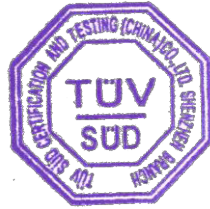


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TÜV SÜD Group

Prepared by:

Reviewed by:

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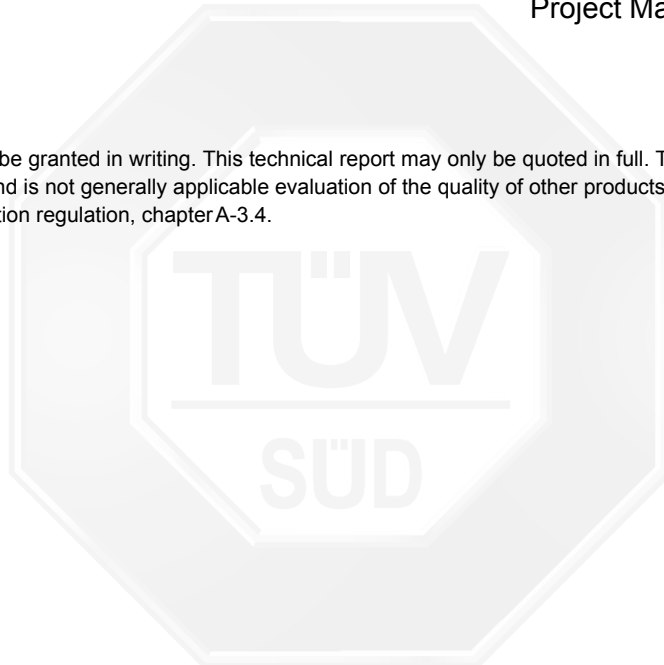


Handwritten signature of Ken Chen in black ink.

Cara Xiang  
Senior Project Coordinator

Ken Chen  
Project Manager

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1. Description of the Test Sample:

Sample Description	Tritan Lunch Box
	

2. List of Materials as identified by the Laboratory:

T. No.	Sample No.	Colour and Description	Photograph
T1	001	Transparent tritan (Lunch box)	
T2	002	Translucent white silicone (Gasket)	
T3	003	Whole product (Lunch box)	

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**3. Test Result**

**3.1 Overall Migration**

Test method: As specified in Regulation (EU) No. 10/2011 ANNEX III and V, test with reference to:  
 EN 1186-1:2002(Guide to the selection of conditions and test methods for overall migration)  
 EN 1186-9:2002 (Article Filling method)  
 [Reporting Limit: 3mg/dm<sup>2</sup>]

TEST ITEM	TEST CONDITIONS	RESULTS [mg/dm <sup>2</sup> ]			LIMIT [mg/dm <sup>2</sup> ]
		SAMPLE 001 1 <sup>st</sup> Migration	SAMPLE 001 2 <sup>nd</sup> Migration	SAMPLE 001 3 <sup>rd</sup> Migration	
3% Acetic acid	40°C for 10 Days	ND	ND	ND	<10
95% Ethanol	40°C for 10 Days	ND	ND	ND	<10
Isooctane	20°C for 2 Days	ND	ND	ND	<10
<b>Conclusion:</b>		Pass*			--

Note 1. “°C” denotes degree Celsius

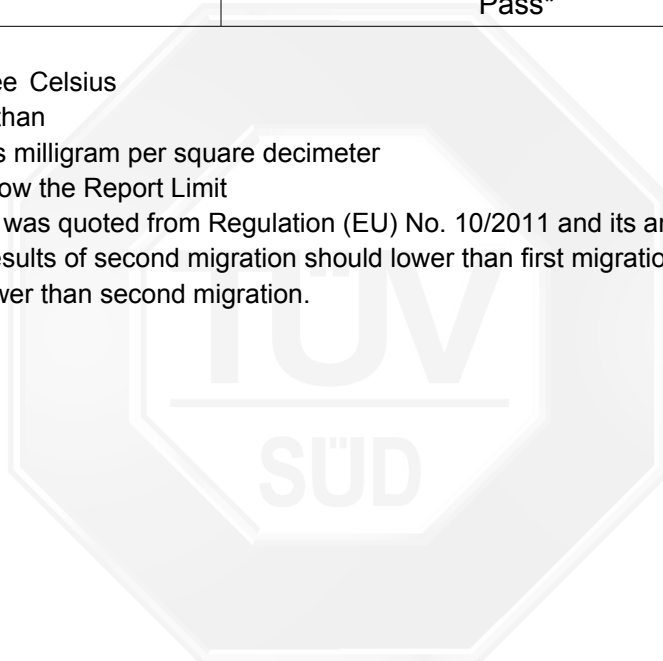
2. “<” denotes less than

3. “mg/dm<sup>2</sup>” denotes milligram per square decimeter

4. “ND” denotes below the Report Limit

5. The specification was quoted from Regulation (EU) No. 10/2011 and its amendments

6. “\*” denotes the results of second migration should lower than first migration, the result of third migration should lower than second migration.



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### 3.2 Specific Migration of Heavy Metals

Test method: with reference to EN1186, followed by Inductively Coupled Plasma Mass Spectrometry (ICP-MS).

Test Conditions: 3% Acetic Acid: 40 °C for 10 Days

TEST ITEM	RESULT [mg/kg foodstuff]			REPORT LIMIT [mg/kg]	LIMIT [mg/kg]
	SAMPLE 001 1 <sup>st</sup> Migration	SAMPLE 001 2 <sup>nd</sup> Migration	SAMPLE 001 3 <sup>rd</sup> Migration		
Aluminium (Al)	ND	ND	ND	<0.05	1
Barium (Ba)	ND	ND	ND	<0.1	1
Cobalt (Co)	ND	ND	ND	<0.050	0.05
Copper (Cu)	ND	ND	ND	<0.50	5
Iron (Fe)	ND	ND	ND	<1.0	48
Lithium (Li)	ND	ND	ND	<0.10	0.6
Nickel (Ni)	ND	ND	ND	<0.01	0.02
Manganese (Mn)	ND	ND	ND	<0.05	0.6
Zinc (Zn)	ND	ND	ND	<1.0	5
Antimony (Sb)	ND	ND	ND	<0.01	0.04
Asenic (As)	ND	ND	ND	<0.01	0.01
Cadmium (Cd)	ND	ND	ND	<0.002	0.002
Chromium (Cr)	ND	ND	ND	<0.01	0.01
Lead (Pb)	ND	ND	ND	<0.01	0.01
Mercury (Hg)	ND	ND	ND	<0.01	0.01
Europium (Eu)	ND	ND	ND	<0.01	0.05
Gadolinium (Gd)	ND	ND	ND	<0.01	0.05
Lanthanum (La)	ND	ND	ND	<0.01	0.05
Terbium (Tb)	ND	ND	ND	<0.01	0.05
<b>Conclusion:</b>	Pass*			--	--

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4. "ND" denotes below the Report Limit

5. The specification was quoted from Regulation (EU) No. 10/2011 and its amendments

6. "\*" denotes the results of second migration should lower than first migration, the result of third migration should lower than second migration.

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### 3.3 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 10 Days

TEST ITEM	RESULT [mg/kg foodstuff]		REPORT LIMIT [mg/kg]	LIMIT [mg/kg]
	SAMPLE 002 1 <sup>st</sup> Migration	SAMPLE 002 3 <sup>rd</sup> Migration		
Dibutyl phthalate (DBP)	ND	ND	<0.30	0.3
benzyl butyl phthalate (BBP)	ND	ND	<1.0	30
Bis (2-ethylhexyl) phthalate (DEHP)	ND	ND	<0.30	1.5
adipic acid, bis(2-ethylhexyl) ester (DEHA)	ND	ND	<1.0	18
Bis(2-Ethylhexyl) Terephthalate (DEHTP)	ND	ND	<1.0	60
DINP+DIDP	ND	ND	<2.0	9
<b>Conclusion:</b>	Pass	Pass	--	--

Test Conditions: Isooctane: 20 °C for 2 Days

TEST ITEM	RESULT [mg/kg foodstuff]		REPORT LIMIT [mg/kg]	LIMIT [mg/kg]
	SAMPLE 002 1 <sup>st</sup> Migration	SAMPLE 002 3 <sup>rd</sup> Migration		
Dibutyl phthalate (DBP)	ND	ND	<0.30	0.3
benzyl butyl phthalate (BBP)	ND	ND	<1.0	30
Bis (2-ethylhexyl) phthalate (DEHP)	ND	ND	<0.30	1.5
adipic acid, bis(2-ethylhexyl) ester (DEHA)	ND	ND	<1.0	18
Bis(2-Ethylhexyl) Terephthalate (DEHTP)	ND	ND	<1.0	60
DINP+DIDP	ND	ND	<2.0	9
<b>Conclusion:</b>	Pass	Pass	--	--

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4. "ND" denotes below the Report Limit

6. "\*" denotes the results of second migration should lower than first migration, the result of third migration should lower than second migration.

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### 3.4 Specific Migration of Bisphenol A (BPA)

Test method: As specified in Regulation (EU) No. 10/2011 ANNEX III and V, and followed by High Performance Liquid Chromatography (HPLC).

Test Conditions: 95% Ethanol: 40 °C for 10 Days

TEST ITEM	RESULT [mg/kg foodstuff]			REPORT LIMIT [mg/kg]	LIMIT [mg/kg]
	SAMPLE 001 1 <sup>st</sup> Migration	SAMPLE 001 2 <sup>nd</sup> Migration	SAMPLE 001 3 <sup>rd</sup> Migration		
Bisphenol A	ND	ND	ND	<0.01	0.05
<b>Conclusion:</b>	Pass*			--	--

Note 1. "°C" denotes degree Celsius

2. "<" denotes less than

3. "mg/kg" denotes milligram per kilogram

4. "ND" denotes below the Report Limit

5. The specification was quoted from Regulation (EU) No. 10/2011 and its amendments Regulation(EU)2018/213

6. "\*" denotes the results of second migration should lower than first migration, the result of third migration should lower than second migration.

### 3.5 Extractable Components

Test method: With reference to Bundesgesundheitsbl 46(2003)362 and followed by gravimetric method.

TEST ITEM	TEST CONDITIONS	RESULT [%]	MAXIMUM PERMISSIBLE LIMIT [%]
		SAMPLE 002	
Distilled Water	Reflux for 5 hours	<0.10	0.5
3% Acetic acid	Reflux for 5 hours	<0.10	0.5
10% Ethanol	Reflux for 5 hours	<0.10	0.5
<b>Conclusion</b>		Pass	-

Note:

- "%" denotes percentage by weight
- "<" denotes less than
- The specification was quoted from Recommendation of the BfR "Kunststoffe im Lebensmittelverkehr" Part XV "Silicone"

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### 3.6 Volatile Organic Matters

Test Method: With reference to Bundesgesundheitsbl 46 (2003) 362.

Test Conditions: 40 °C for 10 Days

TEST ITEM	RESULT [%]	MAXIMUM PERMISSIBLE LIMIT [%]
	SAMPLE 002	
Volatile Organic Matters	<0.10	<0.5
<b>Conclusion</b>	Pass	-

Note 1. "<" denotes less than

2. "%" denotes percent by weight

3. The specification was quoted from Recommendation of the BfR "Kunststoffe im Lebensmittelverkehr" Part XV "Silicones".

### 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 002	
Peroxide Value	Absent	Absent
<b>Conclusion</b>	Pass	-

Note:

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

### 3.8 Total Platinum Content Test

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

TEST ITEM	RESULTS [mg/kg]	MAXIMUM PERMISSIBLE LIMIT [mg/kg]
	SAMPLE 002	
Platinum (Pt)	<15.0	<50
<b>Conclusion</b>	Pass	-

Note 1. "<" denotes less than

2. "mg/kg" denotes milligram per kilogram

3. The specification was quoted from Recommendation of the BfR "Kunststoffe im Lebensmittelverkehr" PartXV "Silicone".

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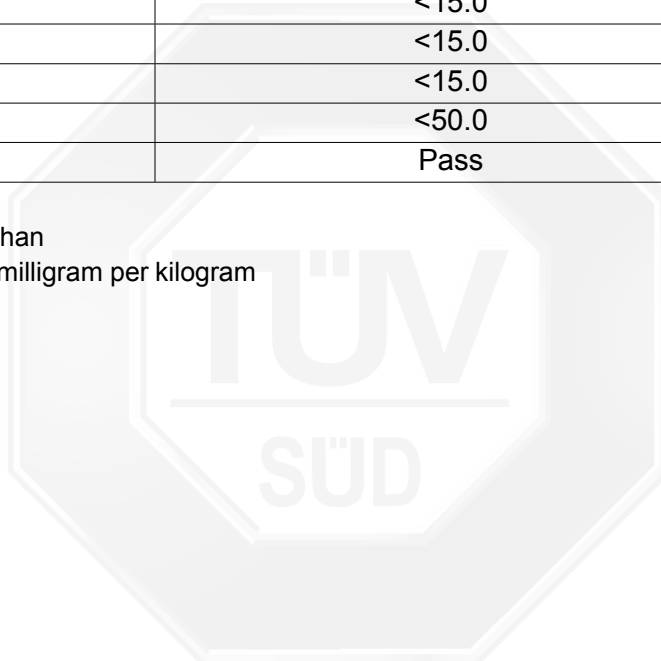
**3.9 Total Heavy Metals (Sb, Ga, Ge, Co, Li, Mn, Zn, Ti, Pb, P) Content**

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

TEST ITEM	RESULTS [mg/kg]	MAXIMUM PERMISSIBLE LIMIT [mg/kg]
	SAMPLE 001	
Antimony (Sb)	<50.0	350
Gallium (Ga)	<15.0	20
Germanium (Ge)	<50.0	100
Cobalt (Co)	<15.0	125
Lithium (Li)	<15.0	130
Manganese (Mn)	<15.0	140
Zinc (Zn)	<15.0	80
Titanium (Ti)	<15.0	120
Lead (Pb)	<15.0	40
Phosphorous (P)	<50.0	125
<b>Conclusion</b>	Pass	-

Note 1. "<" denotes less than

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### 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 simulatant was examined by panels with regard to any divergence in smell and taste.

Test Item	Test Conditions	Grade Results	Recommend Level
		Sample 003	
Transfer of smell	Distilled water: 40°C for 10 Days	1	<2.5
Transfer of taste	Distilled water: 40°C for 10 Days	1	<2.5
<b>Conclusion</b>		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

-- END OF TEST REPORT--

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