

# TEST REPORT

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Below information submitted by the applicant:

Product Name : Squeezy sauce bottle  
Model : 1949, 150ml, PE  
Model may cover : 1956, 240ml, PE; 1957, 360ml, PE; 1966, Triple, 360ml, PE  
1958, 720ml, PE; 1959, 1000ml, PE; 1967, triple, 720ml, PE  
1951, 360ml, Red, PE; 1952, 720ml, Red, PE; 1953, 240ml, Yellow PE  
Reference info. : /  
Manufacturer info. : /

Buyer info. : Suprem-Inox, S.A.  
Avinguda del Progrés 93-96 Polígono Industrial Els Garrofers 08340  
Vilassar de Mar (Bcn) Spain  
Country of Destination : Spain  
Country of Origin : China

Sample Received : 06.29, 2023  
Test Period : 06.29, 2023 - 07.05, 2023  
Test Requirement : Refer to next pages  
Test Method : Refer to next pages  
Test Result : Refer to next pages  
Test Conclusion : Refer to next pages

Revised Report, instead of 8621.SHJ1.2306.0196, 2023-07-24



Signed for and on behalf of  
Jordan Wang, General Manager  
BU Chemical Compliance  
TUV THURINGEN (SHANGHAI) CO., LTD.  
Location: Shanghai

## TÜV THÜRINGEN CHINA

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VERSION: 2022.01.01

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## RESULT SUMMARY

Food contact materials in accordance with General Requirement (Article 3) in EU Regulation No. 1935/2004, Commission Regulation (EU) No 10/2011 and its subsequent amendment Regulation EU No.321/2011, No.1282/2011, No.1183/2012, No.202/2014, No.865/2014, No. 2015/174, No.2016/1416, No.2017/752, No.2018/79, No.2018/213, No.2019/37, No.2020/1245 on plastic materials and articles intended to come into contact with foodstuffs, selected test items as below:

Test Items	Verdict
1. Sensory odor and taste test	PASS
2. Overall migration test; specific migration of primary aromatic amines; soluble heavy metals; specific migration of bisphenol A (BPA); specific migration of softeners and phthalates for PE plastics	PASS
3. Bisphenol A content for all polymer materials	PASS
4. PAHs content in acc. to AfPS GS 2019:01	PASS

### TESTS CARRIED BY:

LAB ID: TTSLCM001; ADD.:12F, BUILDING 1TH, NO.919, HAOYING SCI. PARK, CHONGCHUAN ZONE, NANTONG, JIANGSU, CHINA

## SAMPLE DESCRIPTION

Sample description : 1#. Semi-transparent PE materials



## TEST RESULTS

### 1. Sensorial examination odor and taste test

Test Method: sensory test with reference to DIN 10955:2023

Test Items	Test Results	Permissible Limit
	Whole product	
Test Media	Distilled water	---
Temperature, °C	40.0	---
Contact Time, hour	24.0	---
Sensorial examination odor	0.5	2.5, max
Sensorial examination taste	0.5	2.5, max
Comment(s)	PASS	---

Scale evaluation:

- 0: No perceptible odor
- 1: Odor just perceptible (still difficult to define)
- 2: Moderate odor
- 3: Moderately strong odor
- 4: Strong odor

### 2. Special requirements for plastic materials

#### 2.1. Overall migration test

Test method:

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

EN 1186-2:2022 Materials and articles in contact with foodstuffs - Plastics - Part 2: Test methods for overall migration in vegetable oils

EN 1186-3:2022 Materials and articles in contact with foodstuffs - Plastics - Part 3: Test methods for overall migration in evaporable simulants

Test Parameter	Test Results	Permissible Limit
	1#	
Test Media	3% acetic acid	---
Temperature, °C	40.0	---

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Test Parameter	Test Results	Permissible Limit
	1#	
Contact Time, hour	24.0	---
1 <sup>st</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	---
2 <sup>nd</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	---
3 <sup>rd</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	10, max
Comment(s)	PASS	---

Test Parameter	Test Results	Permissible Limit
	1#	
Test Media	Rectified olive oil	---
Temperature, °C	40.0	---
Contact Time, hour	24.0	---
1 <sup>st</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	---
2 <sup>nd</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	---
3 <sup>rd</sup> , Overall migration test, mg/dm <sup>2</sup>	<3.0	10, max
Comment(s)	PASS	---

## 2.2. specific migration of heavy metal

**Test Method:** with reference to EN 13130-1:2004, followed by analysis using ICP-OES

Test Parameter	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Test Media	3% acetic acid			---
Temperature, °C	40.0	40.0	40.0	---
Contact Time, hour	24.0	24.0	24.0	---
Soluble Aluminum, Al, mg/kg	<0.01	<0.01	<0.01	≤1.0
Soluble Ammonium, NH <sub>4</sub> , mg/kg	<0.01	<0.01	<0.01	---
Soluble Antimony, Sb, mg/kg	<0.01	<0.01	<0.01	≤0.04
Soluble Arsenic, As, mg/kg	<0.002	<0.002	<0.002	≤0.002
Soluble Barium, Ba, mg/kg	<0.10	<0.10	<0.10	≤1.0
Soluble Cadmium, Cd, mg/kg	<0.002	<0.002	<0.002	≤0.002
Soluble Calcium, Ca, mg/kg	<0.01	<0.01	<0.01	---
Soluble Chromium, Cr, mg/kg	<0.01	<0.01	<0.01	≤0.02
Soluble Cobalt, Co, mg/kg	<0.01	<0.01	<0.01	≤0.05
Soluble Copper, Cu, mg/kg	<0.10	<0.10	<0.10	≤5.0
Soluble Europium, mg/kg	<0.01	<0.01	<0.01	≤0.05
Soluble Gadolinium, mg/kg	<0.01	<0.01	<0.01	≤0.05
Soluble Iron, Fe, mg/kg	<0.50	<0.50	<0.50	≤48

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Test Parameter	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Soluble Lanthanum, mg/kg	<0.01	<0.01	<0.01	≤0.05
Soluble Lead, Pb, mg/kg	<0.01	<0.01	<0.01	≤0.02
Soluble Lithium, Li, mg/kg	<0.10	<0.10	<0.10	≤0.6
Soluble Magnesium, Mg, mg/kg	<0.01	<0.01	<0.01	---
Soluble Manganese, Mn, mg/kg	<0.10	<0.10	<0.10	≤0.6
Soluble Mercury, Hg, mg/kg	<0.002	<0.002	<0.002	≤0.002
Soluble Nickel, Ni, mg/kg	<0.01	<0.01	<0.01	≤0.02
Soluble Potassium, K, mg/kg	<0.01	<0.01	<0.01	---
Soluble Sodium, Na, mg/kg	<0.01	<0.01	<0.01	---
Soluble Terbium, mg/kg	<0.01	<0.01	<0.01	≤0.05
Soluble Zinc, Zn, mg/kg	<0.05	<0.05	<0.05	≤5.0
Comment(s)	PASS	PASS	PASS	---

### 2.3. Specific migration test of primary aromatic amine

**Test method:** Sample preparation with reference to EN 13130-1:2004, followed by analysis with reference to DIN 55610:1986.

Test Items	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Test Media	3% acetic acid			---
Temperature, °C	40.0	40.0	40.0	---
Contact Time, hour	24.0	24.0	24.0	---
Specific migration of 4-aminobiphenyl / 4-biphenylamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of o-anisidine / 2-methoxyaniline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of Benzidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4-Chloro-aniline / p-chloroaniline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4-Chloro-o-toluidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4,4'-Diaminodiphenylether / 4,4'-oxydianiline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4,4'-Methylenedianiline / 4,4'-diamino-diphenylmethane, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4,4-Methylenedi-o-toluidine / 3,3'-dimethyl-4,4'-diaminodiphenylmethane, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2-Methoxy-5-methylaniline / p-cresidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4-Methoxy-mphenylenediamine/ 2,4-diaminoanisole, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of o-Toluidine / 2-aminotoluene, mg/kg	<0.002	<0.002	<0.002	≤0.002

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Test Items	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Specific migration of 2,4-Toluenediamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 3,3-Dimethylbenzidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2,4,5-Trimethylaniline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of m-Phenylenediamine / 1,3-Phenylenediamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2-naphthylamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of o-aminoazotoluene/ 4-amino-2',3-dimethylazobenzene/ 4-otolylazo-o-toluidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 5-nitro-o-toluidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 3,3'-dichlorobenzidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 3,3'-dimethoxybenzidine / odianisidine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4,4'-methylene-bis-(2-chloroaniline) / 2,2'-dichloro-4,4'-methylene-dianiline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4,4'-thiodianiline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 4-amino azobenzene, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of Aniline, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2,4-dimethylaniline/2,4-xylydine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2,6-dimethylaniline/ 2,6-xylydine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of m-phenylenediamine/ 1,3-phenylenediamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of p-phenylenediamine/ 1,4-phenylenediamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 2,6-toluenediamine, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of 1,5-diaminenaphthalene, mg/kg	<0.002	<0.002	<0.002	≤0.002
Specific migration of primary aromatic amine, mg/kg	<0.01	<0.01	<0.01	≤0.01
Comment(s)	PASS	PASS	PASS	---

## 2.4. Specific Migration of Bisphenol A

Test Method: sample preparation with reference to EN 13130-1:2004, analysis by GC/MS

Test Parameter	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Test Media	3% acetic acid			---
Temperature, °C	40.0	40.0	40.0	---
Contact Time, hour	24.0	24.0	24.0	---
Specific migration of Bisphenol A, mg/kg	<0.05	<0.05	<0.05	<0.05
Comment(s)	PASS	PASS	PASS	---

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## 2.5. Specific migration of softeners and phthalates

**Test Method:** Sample preparation with reference to EN 13130-1:2004, followed by analysis with GC/MS

Test Parameter	Test Results			Permissible Limit
	1#, 1 <sup>st</sup>	1#, 2 <sup>nd</sup>	1#, 3 <sup>rd</sup>	
Test Media	3% acetic acid			---
Temperature, °C	40.0	40.0	40.0	---
Contact Time, hour	24.0	24.0	24.0	---
Specific migration of DEHP, mg/kg	<0.05	<0.05	<0.05	≤1.5
Specific migration of DBP, mg/kg	<0.05	<0.05	<0.05	≤0.3
Specific migration of BBP, mg/kg	<0.05	<0.05	<0.05	≤30
Specific migration of DINP, mg/kg	<0.05	<0.05	<0.05	≤9
Specific migration of DIDP, mg/kg	<0.05	<0.05	<0.05	≤9
Specific migration of DEHT, mg/kg	<0.05	<0.05	<0.05	≤60
Specific migration of DEHA, mg/kg	<0.05	<0.05	<0.05	≤18
Specific migration of other phthalates and softeners, mg/kg	<0.05	<0.05	<0.05	≤0.05
Comment(s)	PASS	PASS	PASS	---

## 3. Bisphenol A content

**Test Method:** with reference to EPA 3550, solvent extracted, followed analyzed by GC/MS and LC/MS/MS

Test Parameter	Units	MDL	Test Results	Permissible Limit
			1#	
Bisphenol A content BPA, CAS No.80-05-7	mg/kg	0.05	<0.05	0.05, max

Note,

% , percentage; mg, milligrams; g, grams; kg, kilograms  
 mg/kg = milligrams per kilograms; mg/L = milligrams per litre  
 0.1% = 1000mg/kg = 1000mg/L  
 < = less than; > = greater than  
 MDL = method detection limit  
 n.d. = not detected, < MDL  
 n.a. = not applicable  
 n.r. = not required  
 EX = abbr. of Exempted

\*\*\*\*\* To be continued \*\*\*\*\*

**SAMPLE IMAGE**



*Tested sample*



*1949, 150ml, PE*



*1956, 240ml, PE*



*1957, 360ml, PE*



*1966, Triple, 360ml, PE*

# TEST REPORT



1958, 720ml, PE



1959, 1000ml, PE



1967, triple, 720ml, PE



Reference sample



Reference sample

\*\*\*\*\* END OF REPORT \*\*\*\*\*