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Client: WOYTECZEK ANDREA & WOYTECZEK DANIEL GBR
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**Identification/
Model No(s):** HOT WATER BOTTLE (1L, 2L, Long)
Sample Receiving date: 2020-03-18
Testing Period: 2020-03-18 to 2020-03-25

Test Specification:	Test result:
Customer's requirement:	
1. EN 71-3:2019 Migration of 19 Elements	PASS
2. Polycyclic aromatic hydrocarbons (PAHs)	PASS
3. Total Cadmium Content	PASS
4. Organotin compounds content	PASS
5. Short Chain Chlorinated Paraffin (SCCP)	PASS

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



2020-03-25

Ryan Chen / Assistant Project Manager

Date

Name/Position

*Test result is drawn according to the kind and extent of tests performed.
This test report relates to the a. m. 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 mark on this or similar products.*

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Material List:

Item: HOT WATER BOTTLE (1L, 2L, Long)

Material No.	Material	Color	Location
M001	Rubber	grey	refer to photo
M002	Plastic	white	refer to photo
M003	Rubber	grey	refer to photo
M004	Plastic	beige	refer to photo
M005	Plastic	beige	refer to photo

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1. EN 71-3:2019 Migration of 19 Elements - with reference to 2009/48/EC and its amendments

Test Method: with reference to EN 71-3:2019, analyzed by ICP-OES or / ICP-MS / LC-ICP-MS.

3) For scraped-off toy materials:
Test Result:

Test No.				T001	T002	T003
Material No.				M001	M002	M003
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	< RL
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	< RL
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	124	< RL	114

Abbreviation: < less than
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725

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Test Result:

				Test No.	T004	T005
				Material No.	M004	M005
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) _Σ	mg/kg	10	70,000	< RL	< RL	< RL
Antimony (Sb)	mg/kg	5	560	< RL	< RL	< RL
Arsenic (As)	mg/kg	5	47	< RL	< RL	< RL
Barium (Ba)	mg/kg	2.5	18,750	< RL	< RL	43.0
Boron (B)	mg/kg	10	15,000	< RL	< RL	< RL
Cadmium (Cd)	mg/kg	1	17	< RL	< RL	< RL
Chromium III (Cr(III))	mg/kg	10	460	< RL	< RL	< RL
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 ∅	< RL	< RL	< RL
Cobalt (Co)	mg/kg	2.5	130	< RL	< RL	< RL
Copper (Cu)	mg/kg	2.5	7,700	< RL	< RL	< RL
Lead (Pb)	mg/kg	2.5	23	< RL	< RL	< RL
Manganese (Mn)	mg/kg	2.5	15,000	< RL	< RL	< RL
Mercury (Hg)	mg/kg	2.5	94	< RL	< RL	< RL
Nickel (Ni)	mg/kg	2.5	930	< RL	< RL	< RL
Selenium (Se)	mg/kg	10	460	< RL	< RL	< RL
Strontium (Sr)	mg/kg	2.5	56,000	< RL	< RL	2.6
Tin (Sn)	mg/kg	1.0	180,000	< RL	< RL	< RL
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	< RL	< RL	< RL

Abbreviation:

- < less than
- RL = Reporting Limit
- mg/kg denotes milligram per kilogram
- [^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
- ∅ The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725

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Remark:

- * Categorization of toys materials is based on the material texture. According to point H.11 of Annex H to EN 71-3:2019, cosmetic materials with dry, brittle, powder like or pliable texture such as lipstick and eyeshadow are considered as category I materials. However, as a reminder, it cannot preclude the possibility that some national enforcement authorities might take a more stringent action to treat cosmetic materials as sticky and evaluate according to category II requirement as they are intended to be applied on skin and retained for long time.
- Σ According to Commission Directive (EU) 2019/1922, the amendment of Directive 2009/48/EC, migration limits for aluminum in i) dry, brittle, powder-like or pliable toy materials; ii) liquid or sticky toy materials; and iii) scraped-off toy materials will be revised to 2250 mg/kg, 560 mg/kg and 28130 mg/kg, respectively. Effective from 20 May 2021.

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2. Polycyclic aromatic hydrocarbons (PAHs)

Test Method: Organic solvent extraction, GCMS

					Test No.	T001	T002	T003
					Material No.	M001	M002	M003
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzo[a]anthracene (BaA)	56-55-3	mg/kg	0.2	1	< RL	< RL	< RL	
Benzo[a]pyrene (BaP)	50-32-8	mg/kg	0.2	1	< RL	< RL	< RL	
Benzo[b]fluoranthene (BbFA)	205-99-2	mg/kg	0.2	1	< RL	< RL	< RL	
Benzo[k]fluoranthene (BkFA)	207-08-9	mg/kg	0.2	1	< RL	< RL	< RL	
Benzo[j]fluoranthene (BjFA)	205-82-3	mg/kg	0.2	1	< RL	< RL	< RL	
Benzo[e]pyrene (BeP)	192-97-2	mg/kg	0.2	1	< RL	< RL	< RL	
Chrysene (CHR)	218-01-9	mg/kg	0.2	1	< RL	< RL	< RL	
Dibenzo[a,h]anthracene (DBAhA)	53-70-3	mg/kg	0.2	1	< RL	< RL	< RL	

					Test No.	T004
					Material No.	M004
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	
Benzo[a]anthracene (BaA)	56-55-3	mg/kg	0.2	1	< RL	
Benzo[a]pyrene (BaP)	50-32-8	mg/kg	0.2	1	< RL	
Benzo[b]fluoranthene (BbFA)	205-99-2	mg/kg	0.2	1	< RL	
Benzo[k]fluoranthene (BkFA)	207-08-9	mg/kg	0.2	1	< RL	
Benzo[j]fluoranthene (BjFA)	205-82-3	mg/kg	0.2	1	< RL	
Benzo[e]pyrene (BeP)	192-97-2	mg/kg	0.2	1	< RL	
Chrysene (CHR)	218-01-9	mg/kg	0.2	1	< RL	
Dibenzo[a,h]anthracene (DBAhA)	53-70-3	mg/kg	0.2	1	< RL	

Abbreviation: < = less than
 RL = Reporting Limit
 NA = Not Applicable
 mg/kg = milligram per kilogram

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Remark:

- * Requirement according to REACH regulation (EC) No. 1907/2006 with Amendment No. 552/2009 Annex XVII Item No. 50 and (EU) No.1272/2013, are summarized as below:

Scope	Parameter	Unit	Maximum permissible limit
Articles with direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use ,made of plastic and rubber shall follow below limit:			
Such articles include amongst others: ---sport equipment such as bicycles, golf clubs, racquets ---household utensils, trolleys, walking frames --- tools for domestic use --- clothing, footwear, gloves and sportswear ---watch-straps, wrist-bands, masks, head-bands	Each of 8 listed PAHs	mg/kg	1
Toys, including activity toys, and childcare articles	Each of 8 listed PAHs	mg/kg	0.5

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3.Total Cadmium Content

Test Method: For plastic: EN 1122:2001 (method B)
For metal and other material: Acid digestion, analyzed by AAS/ ICP-OES

Test Result:

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	M001	Trial 1	mg/kg	10	100	< RL
		Trial 2	mg/kg	10	100	< RL
		Average	mg/kg	10	100	< RL
T002	M002	Trial 1	mg/kg	10	100	< RL
		Trial 2	mg/kg	10	100	< RL
		Average	mg/kg	10	100	< RL
T003	M003	Trial 1	mg/kg	10	100	< RL
		Trial 2	mg/kg	10	100	< RL
		Average	mg/kg	10	100	< RL
T004	M004	Trial 1	mg/kg	10	100	< RL
		Trial 2	mg/kg	10	100	< RL
		Average	mg/kg	10	100	< RL
T005	M005	Trial 1	mg/kg	10	100	< RL
		Trial 2	mg/kg	10	100	< RL
		Average	mg/kg	10	100	< RL

Abbreviation: < = less than
RL = Reporting Limit
mg/kg = milligram per kilogram

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Remark:

*Regulations on Cadmium

		Maximum Permissible Limit				
EU	Legislation	Plastic materials	Paint (wet state)	Paint on the painted articles	Paint (high zinc content)	Metal parts of jewellery and imitation jewellery articles and hair accessories
EC	REACH regulation (EC) No. 1907/2006 Annex XVII Item 23 and its amendments (EC) No. 552/2009, (EU) No. 494/2011, (EU) No. 835/2012 and (EU) No. 217/2016.	100mg/kg	100mg/kg	1000mg/kg	1000mg/kg	100mg/kg

		Maximum Permissible Limit
Country	Legislation	Paint, plastic, plating/ coating of surface treatment
Switzerland	Switzerland Chemikalien-Risikoreduktions-Verordnung-ChemRRV, 814.81, 18 May 2005	100mg/kg

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4.Organotin compounds content

 Test Method: Organic solvent extraction, GCMS
 Ref. to ISO/TS 16179:2012

Test No.				T001	T002	T003
Material No.				M001	M002	M003
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
TBT(Tributyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
TPT(Triphenyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
TOT(Trioctyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
TCyT(Tricyclohexyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
TPrT(Tripopyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
DBT(Dibutyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL
DOT(Dioctyltin) by weight of tin	%	0.01	0.1	< RL	< RL	< RL

Test No.				T004	T005
Material No.				M004	M005
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result
TBT(Tributyltin) by weight of tin	%	0.01	0.1	< RL	< RL
TPT(Triphenyltin) by weight of tin	%	0.01	0.1	< RL	< RL
TOT(Trioctyltin) by weight of tin	%	0.01	0.1	< RL	< RL
TCyT(Tricyclohexyltin) by weight of tin	%	0.01	0.1	< RL	< RL
TPrT(Tripopyltin) by weight of tin	%	0.01	0.1	< RL	< RL
DBT(Dibutyltin) by weight of tin	%	0.01	0.1	< RL	< RL
DOT(Dioctyltin) by weight of tin	%	0.01	0.1	< RL	< RL

Abbreviation: < = less than
 RL = Reporting Limit
 % = percentage
 NA = Not Applicable

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Remark:

- * Single components with an amount of <0.01% were not considered in the calculation of the sum. In the case of all five tri-substituted organotin compounds, the result is stated n.d.
- ** The assessment for tri-substituted organotin compounds is based on the sum of TBT, TPT, TOT, TCyT and TPrT by weight of tin only.
- *** According to REACH Regulation (EC) No. 1907/2006 Annex XVII Entry 20 and amendment Commission Regulation (EU) No. 276/2010 (formerly known as 2009/425/EC), organotin compounds shall not be used or be placed on the market.

Type of organotin compounds	Maximum Permissible Limit	Implementation date
Tri-substituted organotin compounds, e.g. tributyltin (TBT) compounds and triphenyltin (TPT) compounds	0.1 % by weight of tin	1 July 2010
Dibutyltin (DBT) compounds in mixtures and articles for supply to the general public	0.1 % by weight of tin	1 January 2012 The below products will not be applicable until 1 January 2015: - one-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives, - paints and coatings containing DBT compounds as catalysts when applied on articles, - soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC, - fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications, - outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and facades
Dioctyltin (DOT) compounds - textile articles intended to come into contact with the skin, - gloves, - footwear or part of footwear intended to come into contact with the skin, - wall and floor coverings - childcare articles, - female hygiene products, - nappies, - two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	0.1 % by weight of tin	1 January 2012

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5.Short Chain Chlorinated Paraffin (SCCP)

Test Method: Leather material: ISO 18219: 2015
Non-leather materials: CADS method

Test result:

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Result
T001	M001	SCCP	mg/kg	100	1500	< RL
T002	M002	SCCP	mg/kg	100	1500	< RL
T003	M003	SCCP	mg/kg	100	1500	< RL
T004	M004	SCCP	mg/kg	100	1500	< RL
T005	M005	SCCP	mg/kg	100	1500	< RL

Abbreviation: < = less than
 RL = Reporting Limit
 mg/kg = milligram per kilogram
 SCCP = Short Chain Chlorinated Paraffin C₁₀-C₁₃
 1% = 10000mg/kg

Remark:

* According to Regulation (EU) 2019/1021 as regards Annex I:

Alkanes C ₁₀ -C ₁₃ , chloro (short-chain chlorinated paraffins) (SCCPs)	Maximum Permissible Limit
The production , placing on the market and use of articles containing SCCPs	< 0.15% by weight
The production , placing on the market and use of substances or preparations containing SCCPs	< 1% by weight

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Sample Photos



- END -

