TEST REPORT

Reference No. : TIC-WD201506C1571 Date : Jun.29, 2015 Page No. : 1 of 25

Client :	Yisure Industry And Trade CO., LTD.
Address :	NO.218 CANGCHU ROAD JIANGBEI DISTRICT, NINGBO, ZHEJIANG, CHINA

The following merchandise was (were) submitted and identified by the client as:

Name of Product :	Pepper Mill
Test Model :	KDL-648
Model May Cover :	KDL-638, 639, 642, 619, 621, 633, 629, 622, 613, 618, 650A, 649A, 609, 611A, 611, 630, 620A, 610, 614A, 624, 643, 631, 628, 635, 632, 623, 617, 616, 615A, 615, 607, 644, 641, 646, 647, 612, 610W, 609B, 610C, 611B, 615B, 609A, 630A KDL-544, 532, 532C, 523, 524, 549, 549B, 545, 539, 540, 540A, 540C, 538, 538A, 547, 502, 522A, 522, 508, 526, 530A, 530, 506A, 506, 517A, 502A, 516A, 516, 511, 529A, 518, 527, 512A, 505A, 536, 537, 506C, 507, 531, 531B, 543, 550A, 550, 546A, 546, 541, 509A, 509, 501A, 521, 502B, 502C, 522B, 511B, 516B, 513, 514, 515, 510, 519, 528B
Main Materials:	/
Buyer:	/
Sample Received :	Jun.16, 2015
Test Period :	Jun.16, 2015 - Jun.29, 2015
Test Request :	Suitability for contact with foodstuffs according to LFGB section 30 and 31 with amendments, articles of regulation (EC) no.1935/2004
Test Method :	Please refer to next pages
Test Result:	Please refer to next pages
Conclusion :	The submitted samples with test parts were found to comply with the respective requirement(s) for the tested item(s) as stated in the German Food& Feed Acts LFGB and Regulation (EC) No.1935/2004 (material in contact with food regulation).

Issued by:

A13901

TÜV INTERCERT GmbH
Technical Certifier

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Am Bonner Bogen 2 D-53227 Bonn GERMANY

Test Request:	In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), section 30 and 31, commission regulation (EU) No.10/2011 of 14 January 2011 and its amendments, BfR recommendation for submitted samples: 1) sensorial examination odor and taste test 2) for materials: ABS, AS, MBS, POM, PP, PC, PS, PMMA, Coating Layer – overall migration 3) for materials: ABS, AS, MBS, POM, PP, PC, PS, PMMA, Coating Layer – soluble heavy metal 4) for materials: ABS, AS, MBS, POM, PP, PC, PS, PMMA, Coating Layer – specific migration of primary aromatic amine 5) for materials: ABS, AS, MBS, POM, PP, PC, PS, PMMA, Coating Layer – total Lead and Cadmium 6) for materials: ABS, AS, MBS, PS, PMMA – peroxide value 7) for materials: ABS, AS, MBS, PS, PMMA – volatile organic matter (VOM) 8) for materials: ABS, AS, MBS, PMMA – specific migration of Acrylonitrile 9) for materials: ABS, AS, MBS, PMMA – specific migration of Methacrylic Acid 10) for materials: PC – specific migration of Bisphenol A (BPA) 11) for materials: POM – Formaldehyde 12) for materials: PP – Chromium, Vanadium and Zirconium Content 13) for materials: Glass, Ceramic – Leachable Lead and Cadmium 14) for materials: SUS, Al. – extractable heavy metals 15) for materials: SUS, Al. – extractable elements 16) for materials: Bamboo – PCP content 17) for materials: ABS, AS, MBS, PC, POM, PP, PS, PMMA, Coating Layer – PAHs Content

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TEST RESULTS:

1) Sensorial examination odor and taste test

Test method: Robinson's test with reference to DIN 10955:1983 (2004)

Test condition: 40℃ 1hour

Test media: Distilled water

No. of panelist: 6

Test Items	Results	Maximum Permissible Limit
	KDL-648	
Sensorial examination odor (point scale)	0	2.5
Sensorial examination taste (point scale)	0	2.5

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) Overall migration test

Test method: With reference to EN1186-1:2002 for selection of conditions and test methods;

EN1186-3:2002 aqueous food simulants by total immersion method;

Simulant used	Test condition	Overall Migration (mg/kg)			Permissible Limit (mg/kg)
		1#	2#	3#	
3% Acetic Acid	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
Isooctane	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
95% Ethanol	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
MPPO/ poly(2,6-diphenyl-p-phenylene oxide), particle size 60-80 mesh, pore size 200 nm	at 40℃ for 240hours	<3.0	<3.0	<3.0	60, max

Simulant used	Test condition	Overall Migration (mg/kg)			Permissible Limit (mg/kg)
		4#	5#	6#	
3% Acetic Acid	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
Isooctane	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
95% Ethanol	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max

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Simulant used	Test condition	Overall Migration (mg/kg)			Permissible Limit (mg/kg)
		4#	5#	6#	
MPPO/ poly(2,6-diphenyl-p-phenylene oxide), particle size 60-80 mesh, pore size 200 nm	at 40℃ for 240hours	<3.0	<3.0	<3.0	60, max

Simulant used	Test condition	Overall Migration (mg/kg)			Permissible Limit (mg/kg)
		7#	12#	13#	
3% Acetic Acid	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
Isooctane	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
95% Ethanol	at 40℃ for 24hours	<3.0	<3.0	<3.0	60, max
MPPO/ poly(2,6-diphenyl-p-phenylene oxide), particle size 60-80 mesh, pore size 200 nm	at 40℃ for 240hours	<3.0	<3.0	<3.0	60, max

3) Specific migration test of aromatic amine

Test method: Sample preparation with reference to EN 1186-1, -3, -9:2002, followed by analysis with reference to DIN 55610:1986.

Simulant used	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		1#	2#	3#	
3% acetic acid	at 40℃ for 24hours	n.d.	n.d.	n.d.	n.d.

Simulant used	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		4#	5#	6#	
3% acetic acid	at 40℃ for 24hours	n.d.	n.d.	n.d.	n.d.

Simulant used	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		7#	12#	13#	
3% acetic acid	at 40℃ for 24hours	n.d.	n.d.	n.d.	n.d.

4) Soluble heavy metals

Test method: Sample preparation in 3% Acetic acid at 40℃ for 1 hour, followed by analysis using Inductively Coupled Argon Plasma Spectrometer.

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Test Items	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		1#	2#	3#	
Soluble Barium, Ba	at 40℃ for 24hours	<0.05	<0.05	<0.05	1, max
Soluble Cobalt, Co		<0.01	<0.01	<0.01	0.05, max
Soluble Copper, Cu		<0.25	<0.25	<0.25	5, max
Soluble Iron, Fe		<0.25	<0.25	<0.25	48, max
Soluble Lithium, Li		<0.1	<0.1	<0.1	0.6, max
Soluble Manganese, Mn		<0.1	<0.1	<0.1	0.6, max
Soluble Zinc, Zn		<0.5	<0.5	<0.5	25, max

Test Items	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		4#	5#	6#	
Soluble Barium, Ba	at 40℃ for 24hours	<0.05	<0.05	<0.05	1, max
Soluble Cobalt, Co		<0.01	<0.01	<0.01	0.05, max
Soluble Copper, Cu		<0.25	<0.25	<0.25	5, max
Soluble Iron, Fe		<0.25	<0.25	<0.25	48, max
Soluble Lithium, Li		<0.1	<0.1	<0.1	0.6, max
Soluble Manganese, Mn		<0.1	<0.1	<0.1	0.6, max
Soluble Zinc, Zn		<0.5	<0.5	<0.5	25, max

Test Items	Test condition	Result (mg/kg)			Permissible Limit(mg/kg)
		7#	12#	13#	
Soluble Barium, Ba	at 40℃ for 24hours	<0.05	<0.05	<0.05	1, max
Soluble Cobalt, Co		<0.01	<0.01	<0.01	0.05, max
Soluble Copper, Cu		<0.25	<0.25	<0.25	5, max
Soluble Iron, Fe		<0.25	<0.25	<0.25	48, max
Soluble Lithium, Li		<0.1	<0.1	<0.1	0.6, max
Soluble Manganese, Mn		<0.1	<0.1	<0.1	0.6, max
Soluble Zinc, Zn		<0.5	<0.5	<0.5	25, max

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5) Total Lead and Cadmium

Test Method: Acidic digestion, analysis was performed by ICP-OES.

Test Items	Units	MDL	Result			Permissible Limit
			1#	2#	3#	
Total Lead, Pb	mg/kg	5	n.d.	n.d.	n.d.	40, max
Total Cadmium, Cd	mg/kg	2	n.d.	n.d.	n.d.	20, max

Test Items	Units	MDL	Result			Permissible Limit
			4#	5#	6#	
Total Lead, Pb	mg/kg	5	n.d.	n.d.	n.d.	40, max
Total Cadmium, Cd	mg/kg	2	n.d.	n.d.	n.d.	20, max

Test Items	Units	MDL	Result			Permissible Limit
			7#	12#	13#	
Total Lead, Pb	mg/kg	5	n.d.	n.d.	n.d.	40, max
Total Cadmium, Cd	mg/kg	2	n.d.	n.d.	n.d.	20, max

6) Volatile organic matter

Test method: With reference to LFGB BfR Part B Part II Section XV, May 2003 and LFGB section 35 B80.301(EG).

Test condition: 90℃, 24 hours

Test Items	Units	MDL	Result				Permissible Limit
			1#	2#	3#	7#	
Volatile organic matter, VOM	mg/dm^2	5	n.d.	n.d.	n.d.	n.d.	15, max

Test Items	Units	MDL	Result	Permissible Limit
			12#	
Volatile organic matter, VOM	mg/dm^2	5	n.d.	15, max

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7) Peroxide value

Test Method: with reference to European Pharmacopoeia, 2005 Appendix XF, Peroxide Value method A

Test Items	Units	MDL	Result				Permissible Limit
			1#	2#	3#	7#	
Peroxide Value	/	/	absent	absent	absent	absent	absent

Test Items	Units	MDL	Result	Permissible Limit
			12#	
Peroxide Value	/	/	absent	absent

8) Specific migration of Acrylonitrile

Test Method: sample preparation with reference to EN 13130-1:2004, EN 13130-3:2004, analysis by HS-GC/MS

Test Parameter	Units	MDL	Test Results				Permissible Limit
			1#	2#	3#	12#	
Specific migration of Acrylonitrile, in 3% acetic acid, at 40℃ for 24hours	mg/kg	0.02	n.d.	n.d.	n.d.	n.d.	0.02, max

9) Specific migration of Methacrylic Acid

Test Method: sample preparation with reference to EN 13130-1:2004, EN 13130-3:2004, analysis by GC/MS

Test Parameter	Units	MDL	Test Results				Permissible Limit
			1#	2#	3#	12#	
Specific migration of Methyacrylic Acid, in 3% acetic acid, at 40℃ for 24hours	mg/kg	0.1	n.d.	n.d.	n.d.	n.d.	15, max

10) specific migration of Bisphenol A

Test Method: sample preparation with reference to EN 13130-1:2004, EN 13130-3:2004, analysis by LC/MS

Test Parameter	Units	MDL	Test Results	Permissible Limit
			4#	
Specific migration of Bisphenol A, in 3% acetic acid, at 40℃ for 24hours	mg/kg	0.2	n.d.	0.6, max

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11) Specific migration of Formaldehyde

Test Method: sample preparation with reference to EN 13130-1:2004, followed by analysis using UV-Vis

Test Parameter	Units	MDL	Test Results	Permissible Limit
			5#	
Specific migration of formaldehyde in 3% acetic acid at 40℃ for 24hours	mg/kg	0.2	n.d.	3.0, max

12) Total Chromium, Vanadium and Zirconium Content

Test Method: acid digestion, followed by analysis using ICP-OES

Test Parameter	Units	MDL	Test Results	Permissible Limit
			6#	
Total Chromium Content	mg/kg	5	n.d.	10.0, max
Total Vanadium Content	mg/kg	20	n.d.	20.0, max
Total Zirconium Content	mg/kg	20	n.d.	100.0, max

13) Leaching Lead and Cadmium

Test Method: with reference to EN 1388-1:1995, analysis was performed by ICP-OES.

Parameter	Units	Results				Limits
		8#-1	8#-2	8#-3	8#-4	
Leaching Lead, Pb	mg/L	<0.1	<0.1	<0.1	<0.1	See table 1
Leaching Cadmium, Cd	mg/L	<0.01	<0.01	<0.01	<0.01	
Conclusion	Category Hollow-ware, Storage Container, PASS					

Parameter	Units	Results				Limits
		11#-1	11#-2	11#-3	11#-4	
Leaching Lead, Pb	mg/L	<0.1	<0.1	<0.1	<0.1	See table 1
Leaching Cadmium, Cd	mg/L	<0.01	<0.01	<0.01	<0.01	
Conclusion	Category Flat-ware, Cooking Utensils, PASS					

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Table 1: Permissible limits for articles made from ceramics, glass ceramics with decorated inner surfaces, and for articles with enameled surfaces.

Parameters		Flatware		Hollow-ware	
		Lead, mg/dm^2	Cadmium, mg/dm^2	Lead, mg/L	Cadmium, mg/L
Tableware kitchen equipment	Made from ceramic, glass and glass ceramics	0.8*)	0.07*)	4.0*)	0.3*)
	Enameled	0.8	0.07	0.8	0.07
Cooking& Baking utensils, receptacles also used as packaging materials	Made from ceramic, glass and glass ceramics	0.4	0.05	1.5*)	0.1*)
	Enameled	0.1	0.05	0.4	0.07
Samples for enameled container, part of equipment and water heater		0.1	0.05	-	-

* denotes the limits were same as the limits stated in European Requirement 84/500/EEC and its amendment 2005/31/EC.

14) Extractable Heavy Metals

Test method: Sample prepared with reference to Technical Guide on Metals and Alloys used in food contact materials and articles of the 1st edition in 2013 and by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and Graphite Furnace Atomic Absorption Spectrometry (GFAAS) analysis

Test Condition: 40℃/24hours with Artificial Tap Water

						Unit	mg/kg
Extractable Elements	**MDL**	**1st Result**	**2nd Result**	**1st + 2nd Result**	**7*Limit**	**3rd Result**	**Limit**
		9#	**9#**	**9#**		**9#**	
Silver, Ag	0.01	n.d.	n.d.	n.d.	0.56	n.d.	0.08
Aluminum, Al	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Chromium, Cr	0.01	n.d.	n.d.	n.d.	1.75	n.d.	0.25
Cobalt, Co	0.01	n.d.	n.d.	n.d.	0.14	n.d.	0.02
Copper, Cu	0.01	n.d.	n.d.	n.d.	28	n.d.	4
Iron, Fe	0.01	n.d.	n.d.	n.d.	280	n.d.	40
Magnesium, Mg	0.01	n.d.	n.d.	n.d.	---	n.d.	---
Manganese, Mn	0.01	n.d.	n.d.	n.d.	12.6	n.d.	1.8
Molybdenum, Mo	0.01	n.d.	n.d.	n.d.	0.84	n.d.	0.12
Nickel, Ni	0.01	n.d.	n.d.	n.d.	0.98	n.d.	0.14

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Extractable Elements	MDL	1st Result	2nd Result	1st + 2nd Result	7*Limit	Unit	mg/kg
		9#	9#	9#		3rd Result 9#	Limit
Tin, Sn	0.01	n.d.	n.d.	n.d.	700	n.d.	100
Titanium, Ti	0.01	n.d.	n.d.	n.d.	---	n.d.	---
Vanadium, V	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Zinc, Zn	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Antimony, Sb	0.01	n.d.	n.d.	n.d.	0.28	n.d.	0.04
Arsenic, As	0.001	n.d.	n.d.	n.d.	0.014	n.d.	0.002
Barium, Ba	0.01	n.d.	n.d.	n.d.	8.4	n.d.	1.2
Beryllium, Be	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Cadmium, Cd	0.001	n.d.	n.d.	n.d.	0.035	n.d.	0.005
Lead, Pb	0.001	n.d.	n.d.	n.d.	0.07	n.d.	0.010
Lithium, Li	0.01	n.d.	n.d.	n.d.	0.336	n.d.	0.048
Mercury, Hg	0.001	n.d.	n.d.	n.d.	0.021	n.d.	0.003
Thallium, Tl	0.0001	n.d.	n.d.	n.d.	0.0007	n.d.	0.0001

Note:
1. MDL = Method Detection Limit.
2. n.d. = Not detected, less than MDL.
3. The submitted sample/component is a repeated use article. The migration test was carried out three times on the same article. The sum of the results of the first and second tests should not exceed seven times the limit (Result 1st test + Result 2nd test <7* limit) and the Result 3rd should not exceed the limit.

Extractable Elements	MDL	1st Result	2nd Result	1st + 2nd Result	7*Limit	Unit	mg/kg
		10#	10#	10#		3rd Result 10#	Limit
Silver, Ag	0.01	n.d.	n.d.	n.d.	0.56	n.d.	0.08
Aluminum, Al	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Chromium, Cr	0.01	n.d.	n.d.	n.d.	1.75	n.d.	0.25
Cobalt, Co	0.01	n.d.	n.d.	n.d.	0.14	n.d.	0.02
Copper, Cu	0.01	n.d.	n.d.	n.d.	28	n.d.	4
Iron, Fe	0.01	n.d.	n.d.	n.d.	280	n.d.	40
Magnesium, Mg	0.01	n.d.	n.d.	n.d.	---	n.d.	---

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Extractable Elements	MDL	1st Result	2nd Result	1st + 2nd Result	7*Limit	Unit	mg/kg
		10#	10#	10#		3rd Result 10#	Limit
Manganese, Mn	0.01	n.d.	n.d.	n.d.	12.6	n.d.	1.8
Molybdenum, Mo	0.01	n.d.	n.d.	n.d.	0.84	n.d.	0.12
Nickel, Ni	0.01	n.d.	n.d.	n.d.	0.98	n.d.	0.14
Tin, Sn	0.01	n.d.	n.d.	n.d.	700	n.d.	100
Titanium, Ti	0.01	n.d.	n.d.	n.d.	---	n.d.	---
Vanadium, V	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Zinc, Zn	0.01	n.d.	n.d.	n.d.	35	n.d.	5
Antimony, Sb	0.01	n.d.	n.d.	n.d.	0.28	n.d.	0.04
Arsenic, As	0.001	n.d.	n.d.	n.d.	0.014	n.d.	0.002
Barium, Ba	0.01	n.d.	n.d.	n.d.	8.4	n.d.	1.2
Beryllium, Be	0.01	n.d.	n.d.	n.d.	0.07	n.d.	0.01
Cadmium, Cd	0.001	n.d.	n.d.	n.d.	0.035	n.d.	0.005
Lead, Pb	0.001	n.d.	n.d.	n.d.	0.07	n.d.	0.010
Lithium, Li	0.01	n.d.	n.d.	n.d.	0.336	n.d.	0.048
Mercury, Hg	0.001	n.d.	n.d.	n.d.	0.021	n.d.	0.003
Thallium, Tl	0.0001	n.d.	n.d.	n.d.	0.0007	n.d.	0.0001

15) Extractable heavy metals

Test Method: with reference EN 13130-1:2004 for selection of test method, analysis was performed by ICP-MS.

Simulant used: 3% acetic acid aqueous solution

Test Condition: at 40℃ for 24hours

Test Parameter	Units	MDL	Test Results		Maximum Permissible Limit
			9#	10#	
Extractable Chromium	mg/kg	0.05	n.d.	n.d.	1
Extractable Nickel	mg/kg	0.05	n.d.	n.d.	0.07
Extractable Lead	mg/kg	0.01	n.d.	n.d.	0.02
Extractable Cadmium	mg/kg	0.002	n.d.	n.d.	0.002
Extractable Copper	mg/kg	0.1	n.d.	n.d.	5
Extractable Cobalt	mg/kg	0.01	n.d.	n.d.	0.05

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Test Parameter	Units	MDL	Test Results		Maximum Permissible Limit
			9#	10#	
Extractable Aluminum	mg/kg	0.2	n.d.	n.d.	2
Extractable Manganese	mg/kg	0.25	n.d.	n.d.	0.6

16) Pentachlorophenol (PCP) content

Test Method: sample preparation with reference to LFGB §64 BVL B82.02.8-2001

Test Parameter	Units	MDL	Test Results	Permissible Limit
			13#	
PCP Content	mg/kg	0.5	n.d.	5.0, max

17) PAHs Content

Test Method: With reference to AfPS GS 2014:01, Analysis was performed by GC-MS.

Test Items		Unit	MDL	Test Results				
				1#	2#	3#	4#	5#
1	Naphthalene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
2	Acenaphthylene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
3	Acenaphthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
4	Fluorene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
5	Phenanthrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
6	Anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
7	Fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
8	Pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
9	Benzo[a]anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
10	Chrysene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
11	Benzo[b]fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
12	Benzo[k]fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
13	Benzo[a]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
14	Indeno[1,2,3-cd]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.

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Test Items		Unit	MDL	Test Results				
				1#	2#	3#	4#	5#
15	Dibenzo[a,h]anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
16	Benzo[g,h,i]perylene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
17	Benzo[j[fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
18	Benzo[e]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.	n.d.
Sum of 18PAHs		--	--	n.d.	n.d.	n.d.	n.d.	n.d.

Test Items		Unit	MDL	Test Results			
				6#	7#	12#	13#
1	Naphthalene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
2	Acenaphthylene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
3	Acenaphthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
4	Fluorene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
5	Phenanthrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
6	Anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
7	Fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
8	Pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
9	Benzo[a]anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
10	Chrysene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
11	Benzo[b]fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
12	Benzo[k]fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
13	Benzo[a]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
14	Indeno[1,2,3-cd]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
15	Dibenzo[a,h]anthracene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
16	Benzo[g,h,i]perylene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
17	Benzo[j[fluoranthene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.

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Test Items		Unit	MDL	Test Results			
				6#	7#	12#	13#
18	Benzo[e]pyrene	mg/kg	0.2	n.d.	n.d.	n.d.	n.d.
Sum of 18PAHs		--	--	n.d.	n.d.	n.d.	n.d.

LIMITS FOR PAH IN PRODUCTS according to AfPS Document GS 2014:01

Parameter	Materials, that are intended to be put into the mouth or materials in toys with intended and prolonged skin-contact (longer than 30s)	Materials, not covered by category 1, with foreseeable skin-contact of > 30 s (prolonged skin-contact) or short-term repetitive contact with the human skin		Materials, not covered by category 1 or 2, with foreseeable skin-contact of up to 30 s (short-term skin contact)	
		Toys according to Toy Directive 2009/48/EU	Other products according to Product Safety Act	Toys according to Toy Directive 2009/48/EU	Other products according to Product Safety Act
Benzo[a]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[e]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[a]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[b]fluoroanthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[j]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1
Benzo[k]fluoroanthene	<0.2	<0.2	<0.5	<0.5	<1
Chrysene	<0.2	<0.2	<0.5	<0.5	<1
Dibenzo[a,h]anthracene	<0.2	<0.2	<0.5	<0.5	<1
Indeno[1,2,3-cd]pyrene	<0.2	<0.2	<0.5	<0.5	<1
Acenaphthylene, Acenaphthen, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	Sum<1	Sum<5	Sum<10	Sum<20	Sum<50
Naphthalene	<1	<2	<2	<10	<10
Sum 18 PAHs	<1	<5	<10	<20	<50

Note:

1. The products in category 2 and category 3 are divided into two groups with respective limits: toys according to directive 2009/48/EC and all other products according to ProdSG.

2. Add the requirement of repeated short term skin contact material in category 2.

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Note:

1. mg/kg = ppm
2. MDL = Method Detected Limit
3. "-" = Not Regulated.
4. N.D. = Not Detected

TEST PARTS DESCRIPTION:

1#, Black ABS
2#, Clear AS
3#, Blue MBS
4#, Clear PC
5#, Black POM
6#, Black PP
7#, Clear PS
8#, Clear Glass
9#, Silvery Stainless Steel
10#, Silvery Al.
11#, White Ceramic
12#, Clear PMMA
13#, Nature Bamboo with Coated

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

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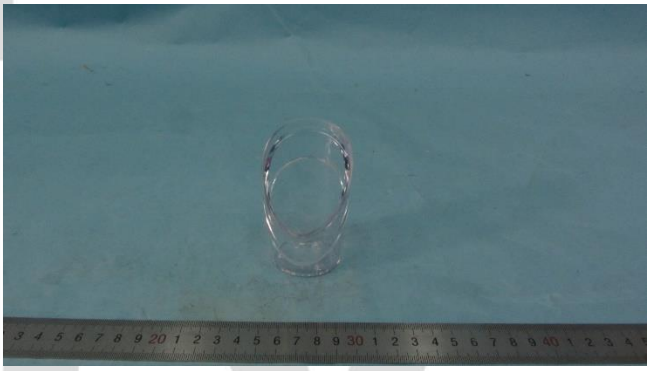
SAMPLE PHOTO

1#



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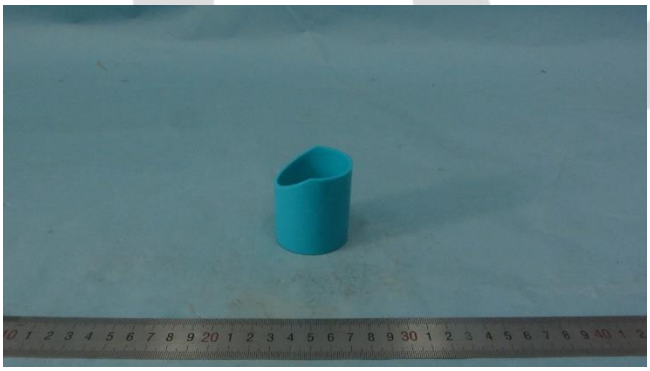

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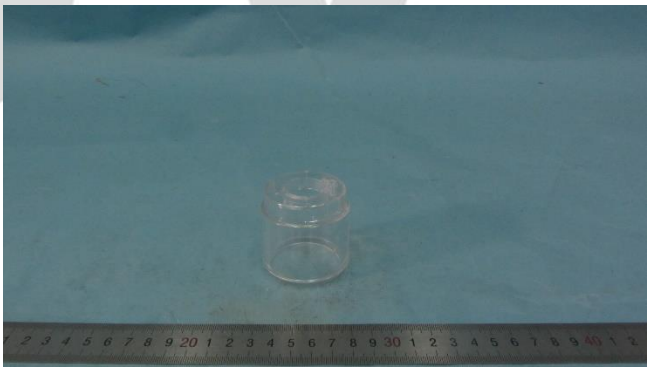

4#

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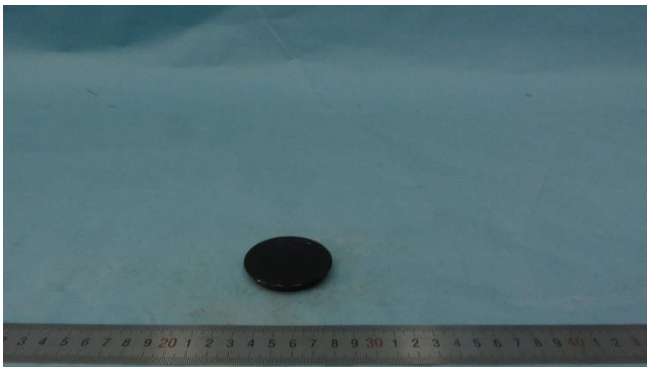
5#



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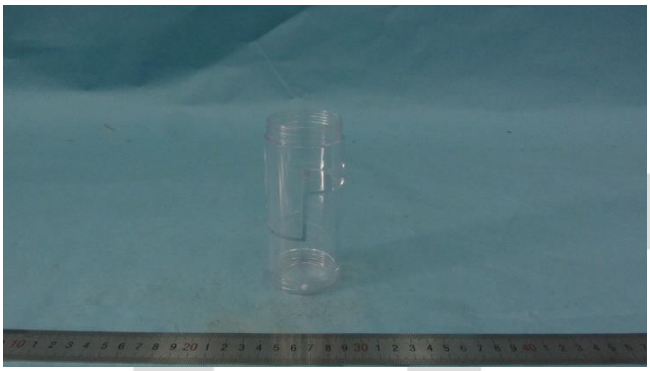

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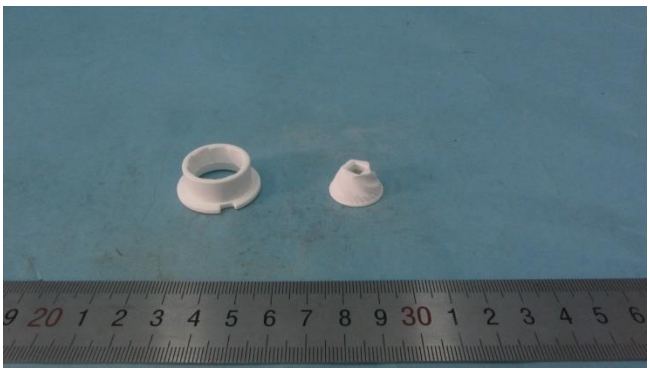
8#

9#

10#



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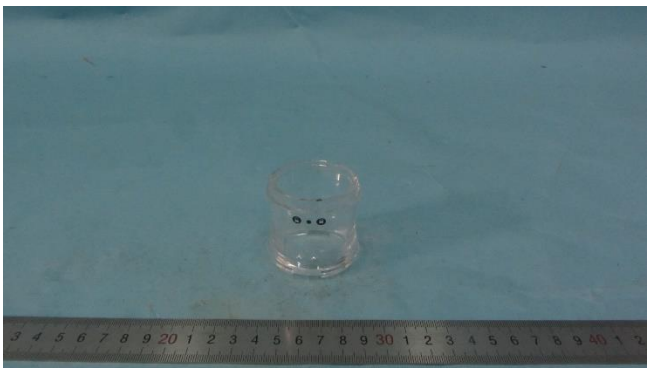

12#

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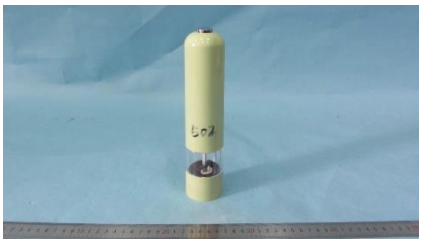
PRODUCT IMAGE

KDL-501A



KDL-502

KDL-502A

KDL-502B

KDL-502C

KDL-505A

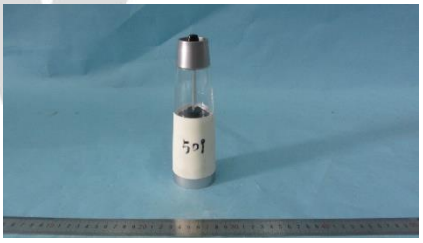
KDL-506

KDL-506A

KDL-506C

KDL-507

KDL-508



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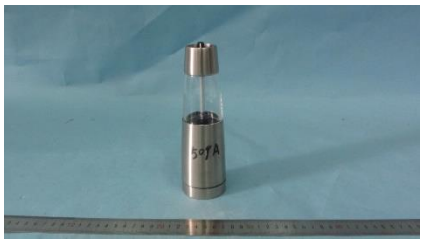

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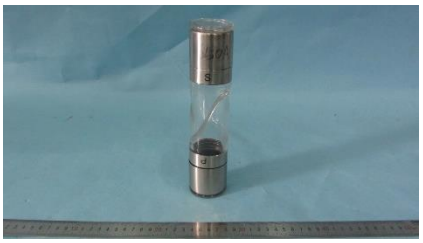

KDL-649A

KDL-511

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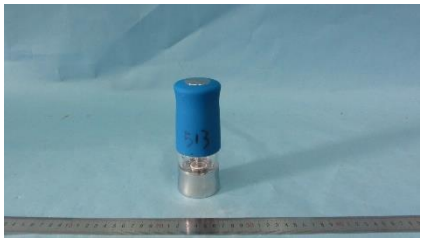
Am Bonner Bogen 2 D-53227 Bonn GERMANY

KDL-511B

KDL-646

KDL-512A



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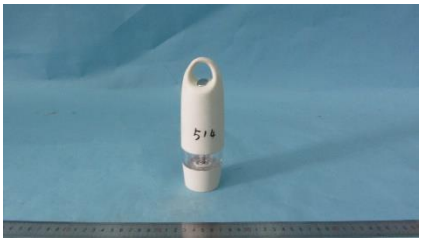

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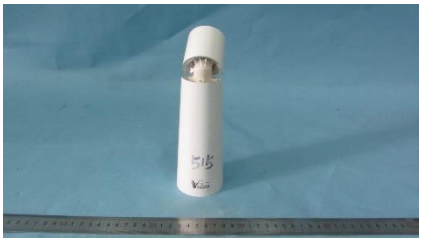


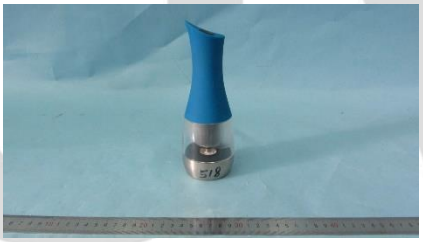
KDL-515

KDL-516

KDL-516A

KDL-516B

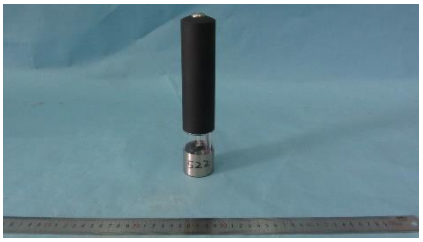
KDL-517A



KDL-518

KDL-519

KDL-521



KDL-522

KDL-522A

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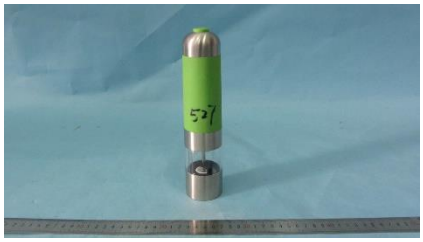
Am Bonner Bogen 2 D-53227 Bonn GERMANY

KDL-523

KDL-524

KDL-526



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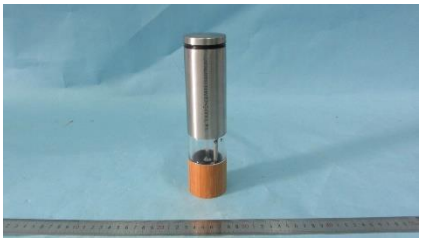

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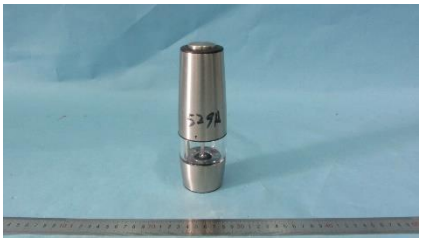

KDL-529A

KDL-530

KDL-530A

KDL-641

KDL-531B

KDL-532

KDL-536

KDL-537

KDL-538

KDL-539

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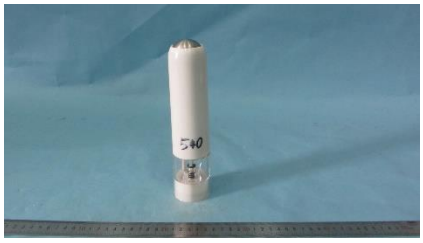

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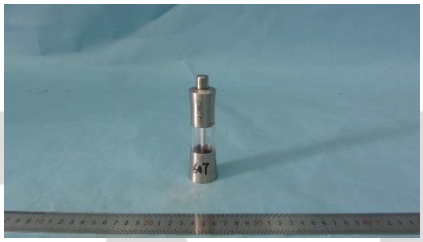
KDL-540A

KDL-540C

KDL-541

KDL-543

KDL-544



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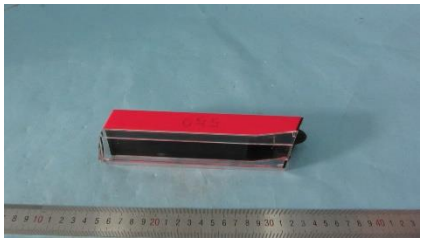
KDL-546

KDL-546A

KDL-547

KDL-549

KDL-549B



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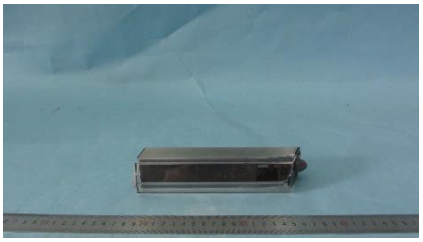

KDL-550A

KDL-607

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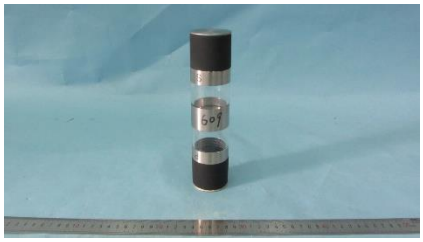

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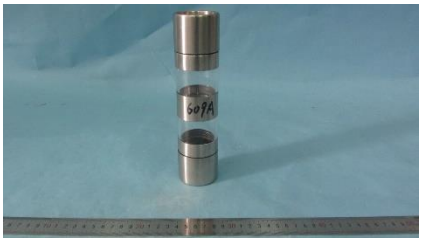


KDL-609A

KDL-609B

KDL-610

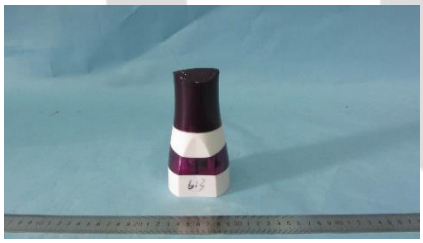
KDL-610C

KDL-610W

KDL-644

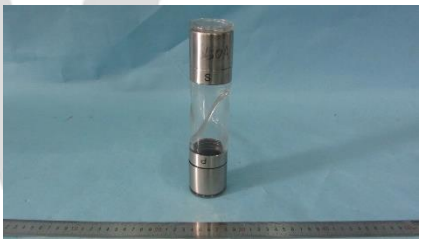
KDL-611A

KDL-612



KDL-613

KDL-614A



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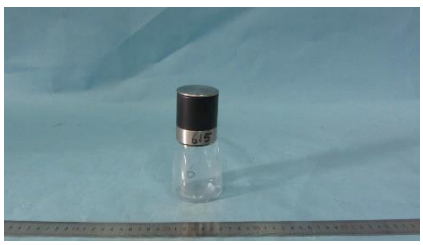

KDL-615

KDL-615A

KDL-615B

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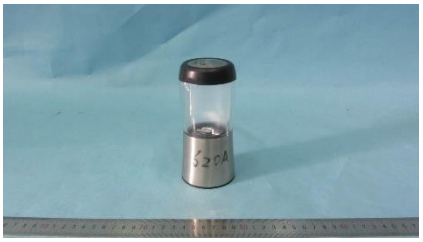
KDL-616

KDL-617

KDL-618

KDL-619



KDL-620A

KDL-621

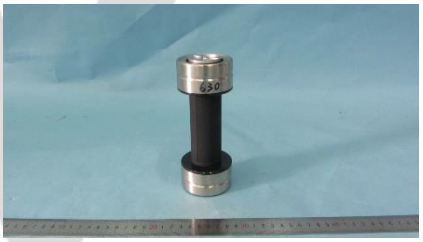
KDL-622

KDL-623

KDL-624

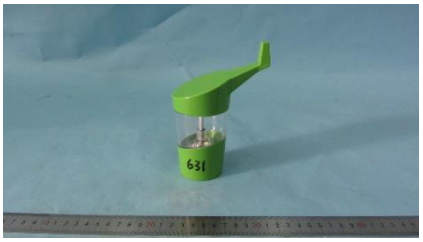
KDL-628

KDL-629



KDL-630

KDL-643



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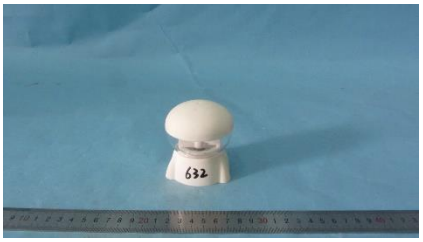

KDL-632

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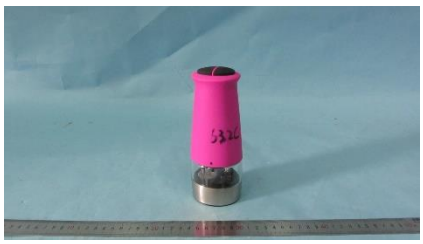
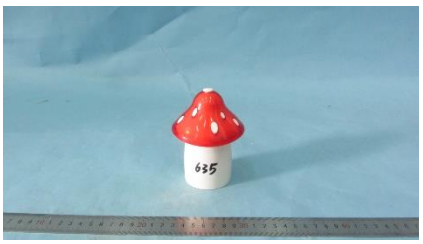
Am Bonner Bogen 2 D-53227 Bonn GERMANY

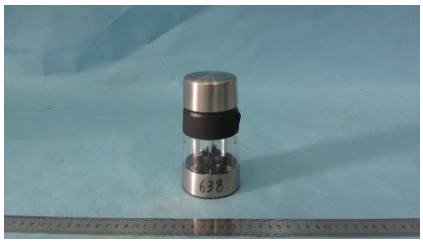


KDL-532C

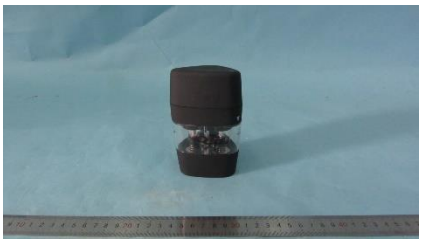
KDL-633



KDL-635



KDL-638



KDL-639

KDL-545

KDL-531

KDL-630A

KDL-510A

KDL-522B

KDL-611

KDL-611B

KDL-538A

KDL-642

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

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