



**Test Report**

Number: SZHH01092023S1

**Applicant:** DONGGUAN LIYANG TOYS LTD.  
Floor 3, Building 2, Daxingwei Industry  
Xianxi, Wusha, Chang'an Town,  
Dongguan City, Guangdong Province

**Date:** Feb 09, 2017

**Attn:** 陈效

*This is to supersede Report No. SZHH01092023 dated Oct 25, 2016*

**Sample Description:**

Eleven (11) pieces of submitted sample said to be :

- Item Name : **Aria.**
- Item No. : **BL-77600, BL-77619, BL-77601, BL-77622.**
- Reference No. : **BL-75601, BL-75619, BL-71922, BL-71919, BL-76601, BL-76622, BL-75622, BL-75600, BL-71901, BL-71900, BL-76600, BL-76619, BL-78601, BL-78622, BL-81701, BL-81522, BL-81500, BL-81719, BL-82622, BL-81600. BL-78600, BL-78619.**
- Labelled Age Group : Not specified.
- Applicant Specified Age : Adult.
- Grading for Testing
- Packaging Provided by Applicant : No.
- Additional Material and Wet Paint Provided : No.
- Date Sample Received : Sep 13, 2016.



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To be continued

Authorized by:  
For Intertek Testing Services  
Shenzhen Ltd.

Ben N.L. Lin  
General Manager



**Intertek Testing Services Shenzhen Ltd.- Hardlines**

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**Attention is drawn to the terms and conditions printed overleaf.**



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Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

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Conclusion:

<u>Tested Sample</u>	<u>Standard</u>	<u>Result</u>
Tested components of submitted samples	Consent Judgment No. RG- 356892 for total Lead content based on the California Proposition 65	See test conducted
Submitted samples	EU REACH Regulation No 1907/2006 Article 33(1) Obligation to provide information of safe use (see REACH requirement in report for details)	Meet requirement
Tested components of submitted samples	Screening by XRF spectroscopy and chemical confirmation test for RoHS Directive 2011/65/EU	Pass

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Tests Conducted

1 Total Lead Content

Acid digestion method was used and total Lead content was determined by Inductively Coupled Argon Plasma Spectrometry.

Element	Result (mg/kg)		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(18)	(19)		
Lead (Pb)	35600^	35500^	10	100

Element	Result (mg/kg)		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(1)			
Lead (Pb)	ND		10	90

Element	Result (mg/kg)		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(2+3+4),(5+6+7),(8+9+10),(11+12),(13+14),(15),(16+17)			
Lead (Pb)	ND		10	100

The above limit was referred to the Consent Judgment No. RG- 356892 settled by superior court of the State of California for the county of Alameda, for toys based on the California Proposition 65.

ND = Not detected

^ = As claimed by the declaration submitted by the client, the Lead content of the component is coming from Copper alloy only. According to 16 CFR Part 1500.88 exemptions from Lead limits under Section 101 of the Consumer Product Safety Improvement Act for certain electronic device, Lead as an alloying element in Copper alloy can be containing up to 4% (40,000 ppm) Lead by weight.

Tested Components:

- (1) Silver color coating on plastic (handle of all styles)
- (2) Green plastic (body of green style)
- (3) Orange plastic (body of orange style)
- (4) Red plastic (body of red style)
- (5) Purple plastic (body of purple style)
- (6) Green plastic (handle of green style)
- (7) Orange plastic (handle of orange style)
- (8) Red plastic (handle of red style)
- (9) Purple plastic (handle of purple style)
- (10) Fuchsia plastic (button of green style)
- (11) Teal plastic (button of orange style)
- (12) Purple plastic (button of red style)
- (13) Green plastic (button of purple style)
- (14) White plastic (ring of all styles)
- (15) Green PCB (inner battery box)
- (16) Silver color metal (plate inner battery box)
- (17) Silver color metal (screw inner battery box)
- (18) Silver color metal (needle inner battery box)
- (19) Silver color metal (tube of needle inner battery box)

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Tests Conducted

2 (I) SVHC Testing Results

By Inductively Coupled Plasma Optical Emission Spectrometry, Ion Chromatography, UV-Visible Spectrophotometry, Gas Chromatographic - Mass Spectrometry, Liquid Chromatographic - Mass Spectrometry and High Performance Liquid Chromatography analysis.

Chemical Substance	Results % (w/w) $\theta$	
	Tested groups	Whole product
	(A1),(A2),(A3), (B1),(B2),(B3), (C1),(C2),(C3), (D1),(D2),(D3)	(A)to(D)
All tested SVHCs in Chemical list	ND	ND

SVHC = Substance of very high concern

ND = Not detected

Reporting limit = 0.050%

$\Delta$  = Determination was based on elemental analysis. The content was calculated based on assumption of worst-case.

$\theta$  = Single result for each test component/group

SVHC Chemical list:

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
1	Cobalt Dichloride $\Delta$	7646-79-9	85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5
2	Diarsenic Pentoxide $\Delta$	1303-28-2	86	Pentacosafuorotridecanoic acid	72629-94-8
3	Diarsenic Trioxide $\Delta$	1327-53-3	87	Tricosafuorododecanoic acid	307-55-1
4	Lead Hydrogen Arsenate $\Delta$	7784-40-9	88	Henicosafuoroundecanoic acid	2058-94-8
5	Triethyl Arsenate $\Delta$	15606-95-8	89	Heptacosafuorotetradecanoic acid	376-06-7
6	Sodium Dichromate $\Delta$	7789-12-0, 10588-01-9	90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
7	Bis (Tributyltin) Oxide (TBTO) $\Delta$	56-35-9	91	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].	85-42-7 13149-00-3 14166-21-3
8	Anthracene	120-12-7	92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
9	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	93	4-Nonylphenol, branched and linear  [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--
10	Hexabromocyclodecane (HBCDD) and All Major Diastereoisomers Identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD)	25637-99-4 and 3194-55-6 (134237-50-6, 134237-51-7, 134237-52-8)	94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated  [covering well-defined substances and UVCB substances, polymers and homologues]	--
11	5-Tert-Butyl-2,4,6-Trinitro-m-Xylene (Musk Xylene)	81-15-2	95	Methoxyacetic acid	625-45-6
12	Bis (2-Ethylhexyl) Phthalate (DEHP)	117-81-7	96	N,N-dimethylformamide	68-12-2
13	Dibutyl Phthalate (DBP)	84-74-2	97	Dibutyltin dichloride (DBTC) $\Delta$	683-18-1
14	Benzyl Butyl Phthalate (BBP)	85-68-7	98	Lead monoxide (Lead oxide) $\Delta$	1317-36-8
15	Short Chain Chlorinated Paraffins (C <sub>10-13</sub> )	85535-84-8	99	Orange lead (Lead tetroxide) $\Delta$	1314-41-6
16	Lead Chromate $\Delta$	7758-97-6	100	Lead bis(tetrafluoroborate) $\Delta$	13814-96-5
17	Lead Chromate Molybdate Sulphate Red (C.I. Pigment Red 104) $\Delta$	12656-85-8	101	Trilead bis(carbonate)dihydroxide $\Delta$	1319-46-6

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
18	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) Δ	1344-37-2	102	Lead titanium trioxideΔ	12060-00-3
19	Tris (2-Chloroethyl) Phosphate	115-96-8	103	Lead titanium zirconium oxideΔ	12626-81-2
20	2,4-Dinitrotoluene	121-14-2	104	Silicic acid, lead salt Δ	11120-22-2
21	Diisobutyl Phthalate (DIBP)	84-69-5	105	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-dopedΔ  [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8
22	Coal Tar Pitch, High Temperature	65996-93-2	106	1-bromopropane (n-propyl bromide)	106-94-5
23	Anthracene Oil	90640-80-5	107	Methyloxirane (Propylene oxide)	75-56-9
24	Anthracene Oil, Anthracene Paste, Distr. Lights	91995-17-4	108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
25	Anthracene Oil, Anthracene Paste, Anthracene Fraction	91995-15-2	109	Diisopentylphthalate (DIPP)	605-50-5
26	Anthracene Oil, Anthracene-low	90640-82-7	110	N-pentyl-isopentylphthalate	776297-69-9
27	Anthracene Oil, Anthracene Paste	90640-81-6	111	1,2-diethoxyethane	629-14-1
28	Acrylamide	79-06-1	112	Acetic acid, lead salt, basicΔ	51404-69-4
29	Boric Acid Δ	10043-35-3, 11113-50-1	113	Lead oxide sulfateΔ	12036-76-9

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
30	Disodium Tetraborate, Anhydrous Δ	1330-43-4, 12179-04-3, 1303-96-4	114	[Phthalato(2-)]dioxotrileadΔ	69011-06-9
31	Tetraboron Disodium Heptaoxide, Hydrate Δ	12267-73-1	115	Dioxobis(stearato)trileadΔ	12578-12-0
32	Sodium Chromate Δ	7775-11-3	116	Fatty acids, C16-18, lead saltsΔ	91031-62-8
33	Potassium Chromate Δ	7789-00-6	117	Lead cyanamidateΔ	20837-86-9
34	Ammonium Dichromate Δ	7789-09-5	118	Lead dinitrateΔ	10099-74-8
35	Potassium Dichromate Δ	7778-50-9	119	Pentalead tetraoxide sulphateΔ	12065-90-6
36	Trichloroethylene	79-01-6	120	Pyrochlore, antimony lead yellowΔ	8012-00-8
37	2-Methoxyethanol	109-86-4	121	Sulfurous acid, lead salt, dibasicΔ	62229-08-7
38	2-Ethoxyethanol	110-80-5	122	TetraethylleadΔ	78-00-2
39	Cobalt Sulphate Δ	10124-43-3	123	Tetralead trioxide sulphateΔ	12202-17-4
40	Cobalt Dinitrate Δ	10141-05-6	124	Trilead dioxide phosphonateΔ	12141-20-7
41	Cobalt Carbonate Δ	513-79-1	125	Furan	110-00-9
42	Cobalt Diacetate Δ	71-48-7	126	Diethyl sulphate	64-67-5
43	Chromium Trioxide Δ	1333-82-0	127	Dimethyl sulphate	77-78-1
44	Chromic Acid Δ Dichromic Acid Δ Oligomers of Chromic Acid and Dichromic Acid Δ	7738-94-5 13530-68-2 --	128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2
45	Strontium ChromateΔ	7789-06-2	129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7
46	2-ethoxyethyl acetate (2-EEA)	111-15-9	130	4,4'-methylenedi-o-toluidine	838-88-0
47	1,2-Benzenedicarboxylic acid, di-C <sub>7-11</sub> -branched and linear alkyl esters (DHNUP)	68515-42-4	131	4,4'-oxydianiline and its salts	101-80-4

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
48	Hydrazine	7803-57-8 302-01-2	132	4-aminoazobenzene	60-09-3
49	1-methyl-2-pyrrolidone	872-50-4	133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7
50	1,2,3-trichloropropane	96-18-4	134	6-methoxy-m-toluidine (p-cresidine)	120-71-8
51	1,2-Benzenedicarboxylic acid, di-C <sub>6-8</sub> -branched alkyl esters, C <sub>7</sub> -rich (DIHP)	71888-89-6	135	Biphenyl-4-ylamine	92-67-1
52	Lead dipicrate $\Delta$	6477-64-1	136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3
53	Lead styphnate $\Delta$	15245-44-0	137	o-toluidine	95-53-4
54	Lead azide; Lead diazide $\Delta$	13424-46-9	138	N-methylacetamide	79-16-3
55	Phenolphthalein	77-09-8	139	Cadmium $\Delta$	7440-43-9
56	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	140	Cadmium oxide $\Delta$	1306-19-0
57	N,N-dimethylacetamide (DMAC)	127-19-5	141	Dipentyl phthalate (DPP)	131-18-0
58	Trilead diarsenate $\Delta$	3687-31-8	142	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	--

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
59	Calcium arsenate $\Delta$	7778-44-1	143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1
60	Arsenic acid $\Delta$	7778-39-4	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1
61	Bis(2-methoxyethyl) ether	111-96-6	145	Cadmium sulphide $\Delta$	1306-23-6
62	1,2-Dichloroethane	107-06-2	146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0
63	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7
64	2-Methoxyaniline; o-Anisidine	90-04-0	148	Dihexyl phthalate (DnHP)	84-75-3
65	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7
66	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	150	Lead di(acetate) $\Delta$	301-04-2
67	Pentazinc chromate octahydroxide $\Delta$	49663-84-5	151	Trixylyl phosphate	25155-23-1
68	Potassium hydroxyoctaoxidizincate di-chromate $\Delta$	11103-86-9	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (Diisohexyl phthalate(DIHP))	68515-50-4

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
69	Dichromium tris(chromate) $\Delta$	24613-89-6	153	Cadmium chloride $\Delta$	10108-64-2
70	Aluminosilicate Refractory Ceramic Fibres $\Delta$	(Index No. 650-017-00-8)	154	Sodium perborate; perboric acid, sodium salt $\Delta$	--
71	Zirconia Aluminosilicate Refractory Ceramic Fibres $\Delta$	(Index No. 650-017-00-8)	155	Sodium peroxometaborate $\Delta$	7632-04-4
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	157	2-benzotriazol-2-yl-4,6-ditert-butylphenol (UV-320)	3846-71-7
74	Diboron trioxide $\Delta$	1303-86-2	158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1
75	Formamide	75-12-7	159	Cadmium fluoride $\Delta$	7790-79-6
76	Lead(II) bis(methanesulfonate) $\Delta$	17570-76-2	160	Cadmium sulphate $\Delta$	10124-36-4; 31119-53-6
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	15571-58-1; 27107-89-7

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
78	$\beta$ -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq$ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1
79	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	90-94-8	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	117933-89-8
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	164	Nitrobenzene	98-95-3
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with $\geq$ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1

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Tests Conducted

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3
83	α,α-Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	167	1,3-propanesultone	1120-71-4
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4
--	--	--	169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8

As applicant's requirement, materials were screened in composite testing and results were reported in proportion with the whole product weight.

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Tests Conducted

(II) Tested groups:

- (A1) Plastic materials
- (B1) Plastic materials
- (C1) Plastic materials
- (D1) Plastic materials
  
- (A2) Magnet materials
- (B2) Magnet materials
- (C2) Magnet materials
- (D2) Magnet materials
  
- (A3) Metal materials
- (B3) Metal materials
- (C3) Metal materials
- (D3) Metal materials

Notes:

Substances of very high concern (SVHC) are classified as: Carcinogenic, mutagenic or toxic to reproduction category 1 (proven on humans) and category 2 (proven on animals)

Persistent, bioaccumulative and toxic chemicals (PBT)  
Very persistent and very bioaccumulative chemicals (vPvB)

Other similar substances such as endocrine disrupters  
If the imported or manufactured volume of each individual SVHC in article is more than 0.1% (w/w) and if it exceeds 1 tonne per year across all product ranges, then importer or manufacturer require notification to the European Chemical Agency (ECHA). For substances included in the Candidate List on or after 1 December 2010, the notifications have to be submitted no later than 6 months after the inclusion. The following information has to be submitted for notification:

- Identification of the registrant and the substance
- Classification and labelling of the substance
- Description of use of the substance and the article
- Registration number, if available
- Tonnage range

REACH requirement:

As per article 33(1) of regulation (EC) No. 1907/2006 (REACH), recipients of product must be provided with information of safe use if any of the tested substances (SVHC) exceeded 0.1% (w/w). A product meets the requirement of article 33(1) by default when no SVHC exceeds 0.1% (w/w).

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Tests Conducted

3 RoHS Chemical Test

(A) Screening Test by XRF Spectroscopy

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and Bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0 : 2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances.

Screened Components	XRF Results		Chemical Confirmation Result
1	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
2	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
3	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
4	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
5	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
6	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
7	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
8	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
9	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
10	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



**Intertek Testing Services Shenzhen Ltd.- Hardlines**

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Test Report

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
11	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
12	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
13	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
14	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
15	Cd	ND	Pb:23000mg/kg #
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	
16	Cd	ND	Pb:24300mg/kg #
	Pb	>1300mg/kg	
	Hg	ND	
	Cr	ND	
	Br	NT	

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
17	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
18	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
19	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
20	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
21	Cd	ND	Cr <sup>6+</sup> :ND(<1mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	ND	
22	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	

\*\*\*\*\*



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**Test Report**

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
23	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
24a	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
24b	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
25a	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
25b	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
26	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

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**Test Report**

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
27	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
28	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
29a	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
29b	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Detected	
29c	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
29d	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

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Test Report

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
29e	Cd	ND	Cr <sup>6+</sup> :Negative(<0.10µg/cm <sup>2</sup> )
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
30	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
31	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
32	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
33	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
34	Cd	ND	Cr <sup>6+</sup> :Negative(<0.10µg/cm <sup>2</sup> )
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
35	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
36	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
37	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
38	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
39	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40a	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	

\*\*\*\*\*



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**Test Report**

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Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
40b	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40c	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
40d	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40e	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40f	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40g	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	

\*\*\*\*\*



Test Report

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
40h	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40i	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40j	Cd	ND	Cr <sup>6+</sup> :Negative(<0.10µg/cm <sup>2</sup> )
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
40k	Cd	ND	Cr <sup>6+</sup> :Negative(<0.10µg/cm <sup>2</sup> )
	Pb	ND	
	Hg	ND	
	Cr	Inconclusive	
	Br	NT	
40l	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
40m	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*





**Test Report**

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
40n	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40o	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
40p	Cd	ND	PBBs:ND(<5mg/kg) PBDEs:ND(<5mg/kg)
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	Inconclusive	
40q	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	NT	
40r	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
40s	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

Screened Components	XRF Results		Chemical Confirmation Result
40t	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	
40u	Cd	ND	NT
	Pb	ND	
	Hg	ND	
	Cr	ND	
	Br	ND	

Detected = Below the lower screening limit of table (C) and pass

ND = Not detected

NT = Not tested

Positive = A positive test result indicated the concentration of Cr(VI) is greater than threshold of 0.13µg/cm<sup>2</sup> for boiling-water-extraction procedures by visual comparison / by UV-VIS Spectrophotometer analysis. The sample coating is considered to contain Cr(VI).

Negative = A negative test result indicated the concentration of Cr(VI) is less than threshold of 0.10µg/cm<sup>2</sup> for boiling-water-extraction procedures by UV-VIS Spectrophotometer analysis. The coating is considered a non-Cr(VI) based coating.

Remark:

(#) = As claimed by the declaration submitted from the applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

(B) XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

P = Pass

X = Inconclusive result

**F = Fail**

mg/kg = milligram per kilogram = ppm

(C) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

**Disclaimers:**

This XRF Screening and Chemical Confirmation Test Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis is required to obtain quantitative data.

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

(D) Chemical Confirmation Test Methods:

Testing Item	Testing Method	Reporting Limit
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0:2013, by acid digestion and determined by ICP - OES	2 mg/kg
Polybrominated Biphenyls (PBBs)& Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg
Chromium (VI) (Cr <sup>6+</sup> ) Content	With reference to IEC 62321-7-1 Edition 1.0:2015, by boiling water extraction and determined by UV-VIS Spectrophotometer	0.10µg/cm <sup>2</sup>
Chromium (VI)(Cr <sup>6+</sup> ) Content	With reference to IEC 62321 Edition 1.0:2008, by alkaline digestion and determined by UV-VIS Spectrophotometer	1 mg/kg

(E) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr <sup>6+</sup> )	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)

Tested Components:

- 1 Silver color coating on plastic
- 2 Green plastic
- 3 Orange plastic
- 4 Red plastic
- 5 Purple plastic
- 6 Green plastic
- 7 Orange plastic
- 8 Red plastic
- 9 Purple plastic
- 10 Fuchsia plastic
- 11 Teal plastic
- 12 Purple plastic
- 13 Green plastic
- 14 White plastic
- 15 Silver color metal
- 16 Silver color metal
- 17 Silver color metal
- 18 Silver color metal (screw)

\*\*\*\*\*



Tests Conducted

Tested Components:

- 19 Conformal coating with green solder mask & copper color metal pad & fibreboard (PCB).
- 20 Silver color solder
- 21 White ceramic with black material & white printing & silver color metal (SMD resistor)
- 22 Black plastic with beige printing & silver color metal (SMD triode)
- 23 Black plastic with brown printing & silver color metal (SMD diode).
- 24 IC
  - (a) Black plastic body.
  - (b) Silver color metal (lead).
- 25 IC
  - (a) Black plastic body.
  - (b) Silver color metal (lead).
- 26 Beige ceramic with silver color metal (SMD capacitor)
- 27 Black ceramic with silver color metal (SMD capacitor)
- 28 Grey ceramic with silver color metal (SMD capacitor)
- 29 Button
  - (a) white plastic.
  - (b) Black plastic body.
  - (c) Silver color metal
  - (d) Silver color metal
  - (e) Silver color metal
- 30 Cream paper adhesive
- 31 White foam
- 32 Black plastic
- 33 Black plastic
- 34 Silver color metal (spring)
- 35 Gold color metal
- 36 Transpantet plastic (wire)
- 37 Silver color metal (wire)
- 38 Silver color metal (plate)
- 39 Silver color metal (spring)

\*\*\*\*\*



**Test Report**

Number: SZHH01092023S1

Tests Conducted

Tested Components:

40 (refer to Motor  
1092031-10#)

- (a) Silver color metal (case).
- (b) Light gold color metal (washer).
- (c) Black magnetic plastic.
- (d) Silver color metal.
- (e) Silver color metal.
- (f) Silver color metal with solder (lead).
- (g) Transparent cream plastic.
- (h) Light gold color metal.
- (i) Silver color metal (brush).
- (j) Silver-grey metal.
- (k) Silver color metal (axle).
- (l) Copper color enamelled wire.
- (m) White plastic.
- (n) Black magnet with silver color metal & solder.
- (o) White plastic (washer).
- (p) Black plastic.
- (q) Silver/copper color metal.
- (r) White plastic (washer).
- (s) Brown felt (washer).
- (t) White plastic label.
- (u) Black plastic (washer).

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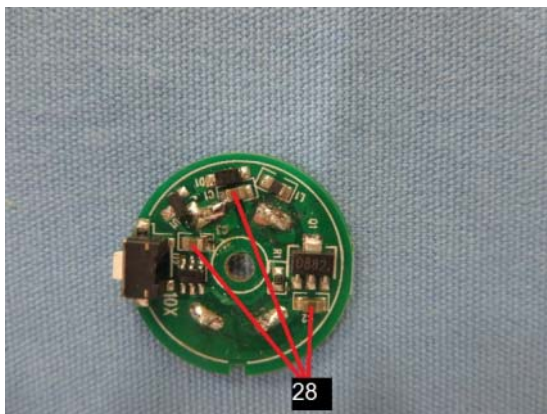
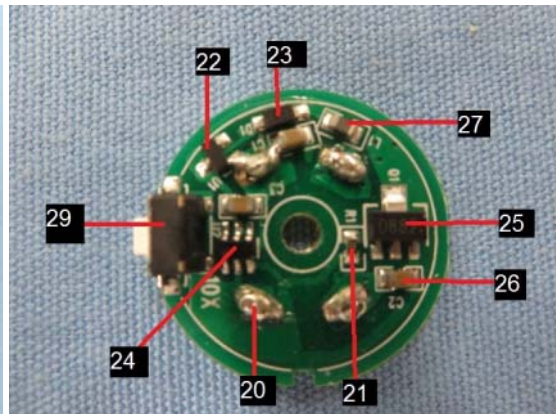
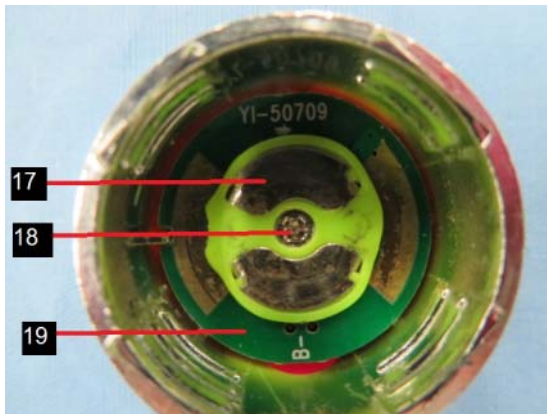
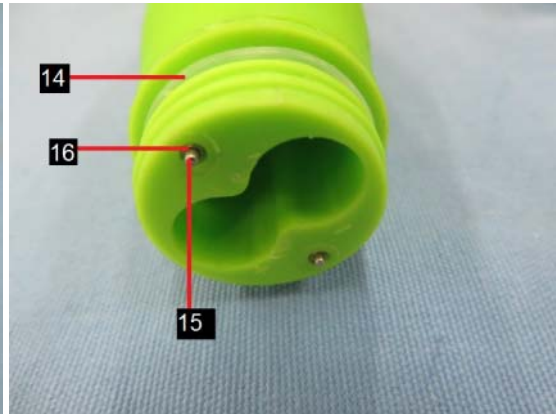
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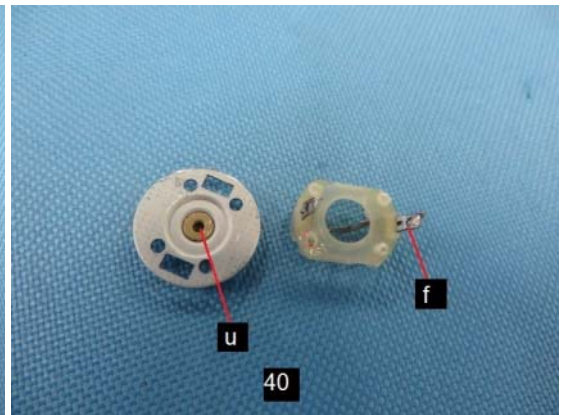
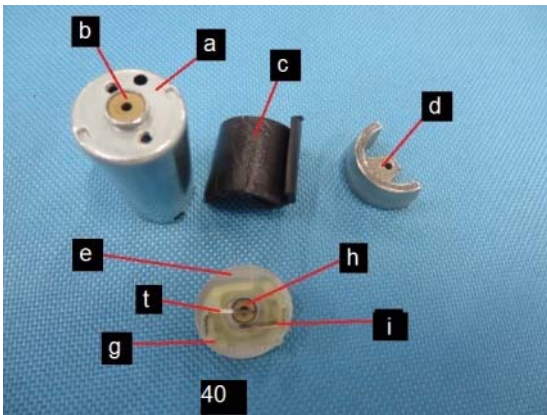
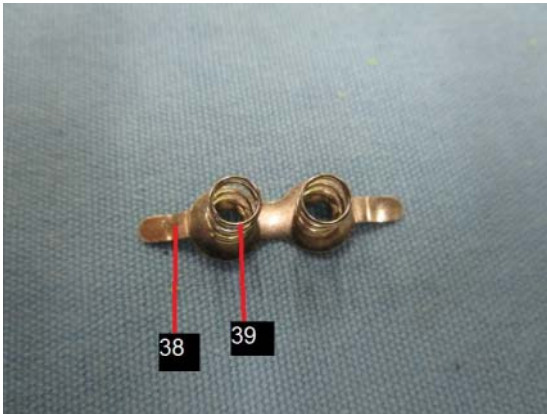
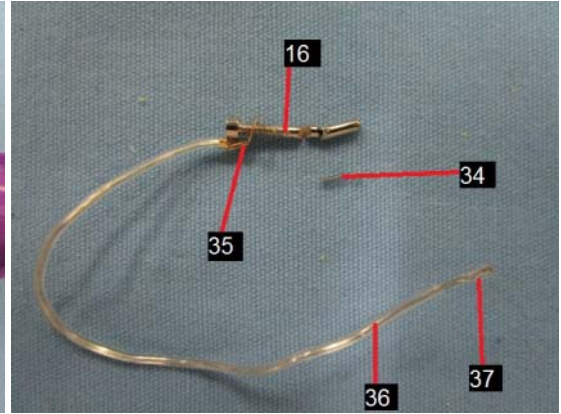
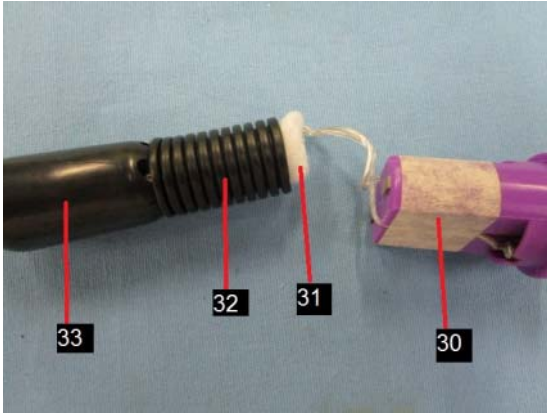
Tests Conducted



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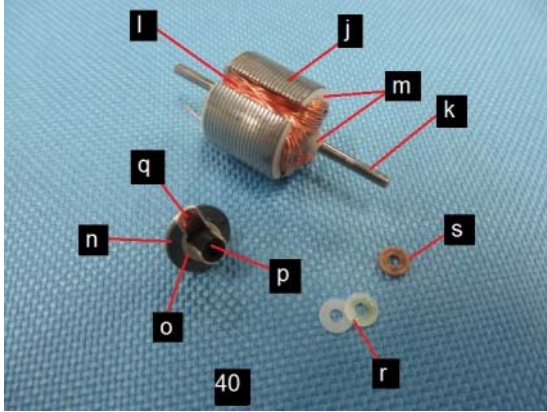
Tests Conducted



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Tests Conducted



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End of report

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To: DONGGUAN LIYANG TOYS LTD.

Attention: 陈效

Date: Feb 09, 2017

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Re : Report Revision Notification

Intertek Testing Services Report Number SZHH01092023Dated Oct 25, 2016

Please be informed that all the content recorded in the above captioned report will be void. This captioned report is now superseded by a revised Intertek Testing Services Report, SZHH01092023S1

Thank you for your attention.

Authorized by:  
For Intertek Testing Services  
Shenzhen Ltd.

Ben N.L. Lin  
General Manager

**Intertek Testing Services Shenzhen Ltd.- Hardlines**

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