



TEST REPORT

LAB NO. : (9318)215-0322-R1
DATE : Aug 23, 2018
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The report is amendment of and supersedes the previous report (9318)215-0322 dated Aug 15, 2018.

APPLICANT : **FLASHBAY ELECTRONICS**
BLDG. NO. 1 101-501, BLDG, NO. 2, BLDG, NO.3 1~4F,
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HEPING, FUHAI, BAO'AN DISTRICT, SHENZHEN CITY,
GUANGDONG PROVINCE, P.R.CHINA

CONTACT PERSON : LEVIN

DATE OF SUBMISSION : Aug 03, 2018

TEST PERIOD : Aug 03, 2018 to Aug 15, 2018

NO. OF WORKING DAYS : 9

SAMPLE DESCRIPTION : USB Hub

Color: /

Style no. / Model no.: Expand(EN)

P.O. No.: /

Country of Origin: /

Country of Destination: /

MANUFACTURER : /

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)	PASS	
Phthalates Test – Directive 2015/863/EU Amendment of European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) (Note: The amendment will be effective on 22 July 2019. For medical devices and control instruments, effective date will be 22 July 2021.)	PASS	

RW

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BUREAU VERITAS CONSUMER PRODUCTS SERVICES (GUANGZHOU) CO., LTD

NINA REN
SENIOR MANAGER



REMARK

If there are questions or concerns on this report, please contact the following persons:

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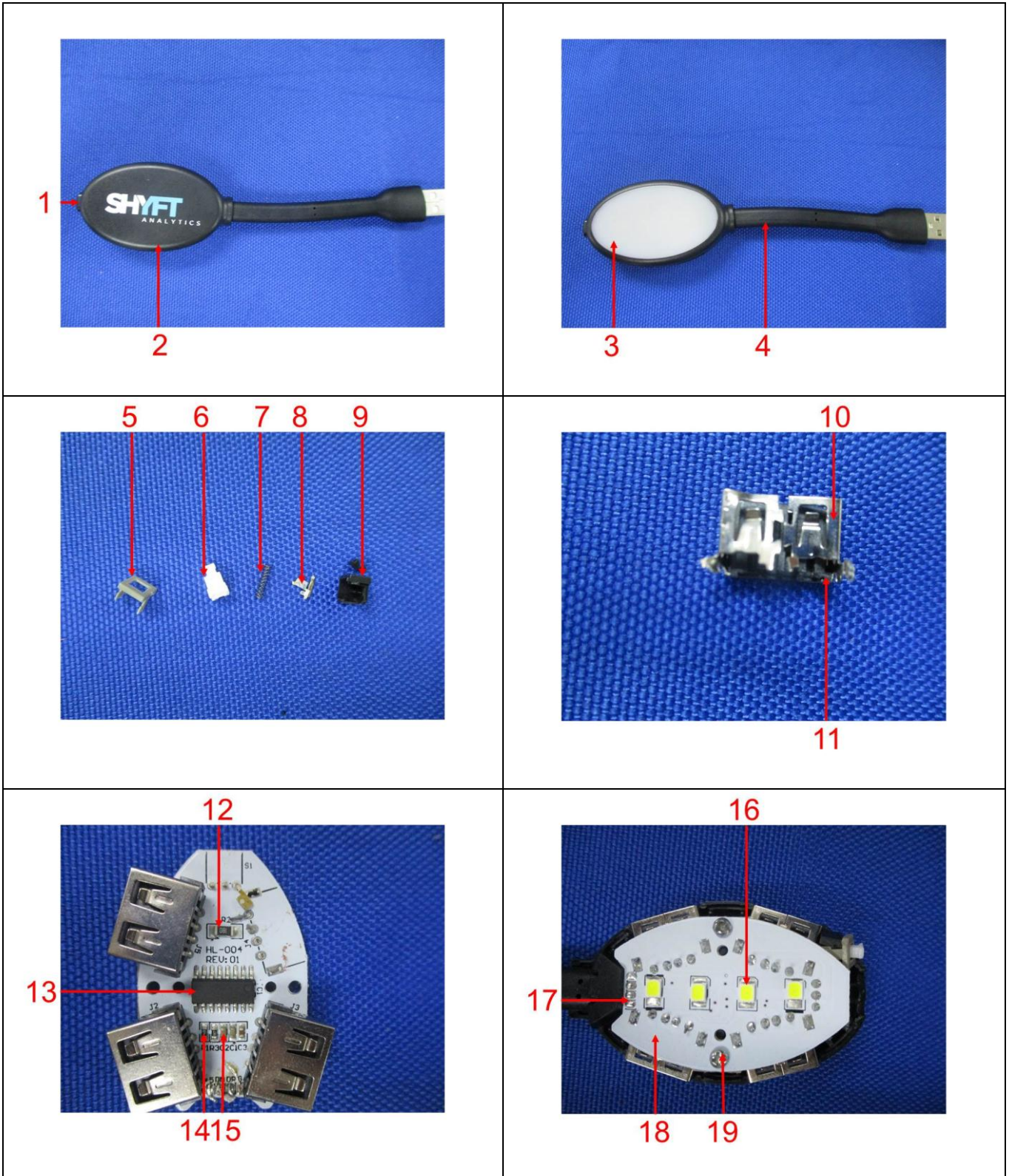


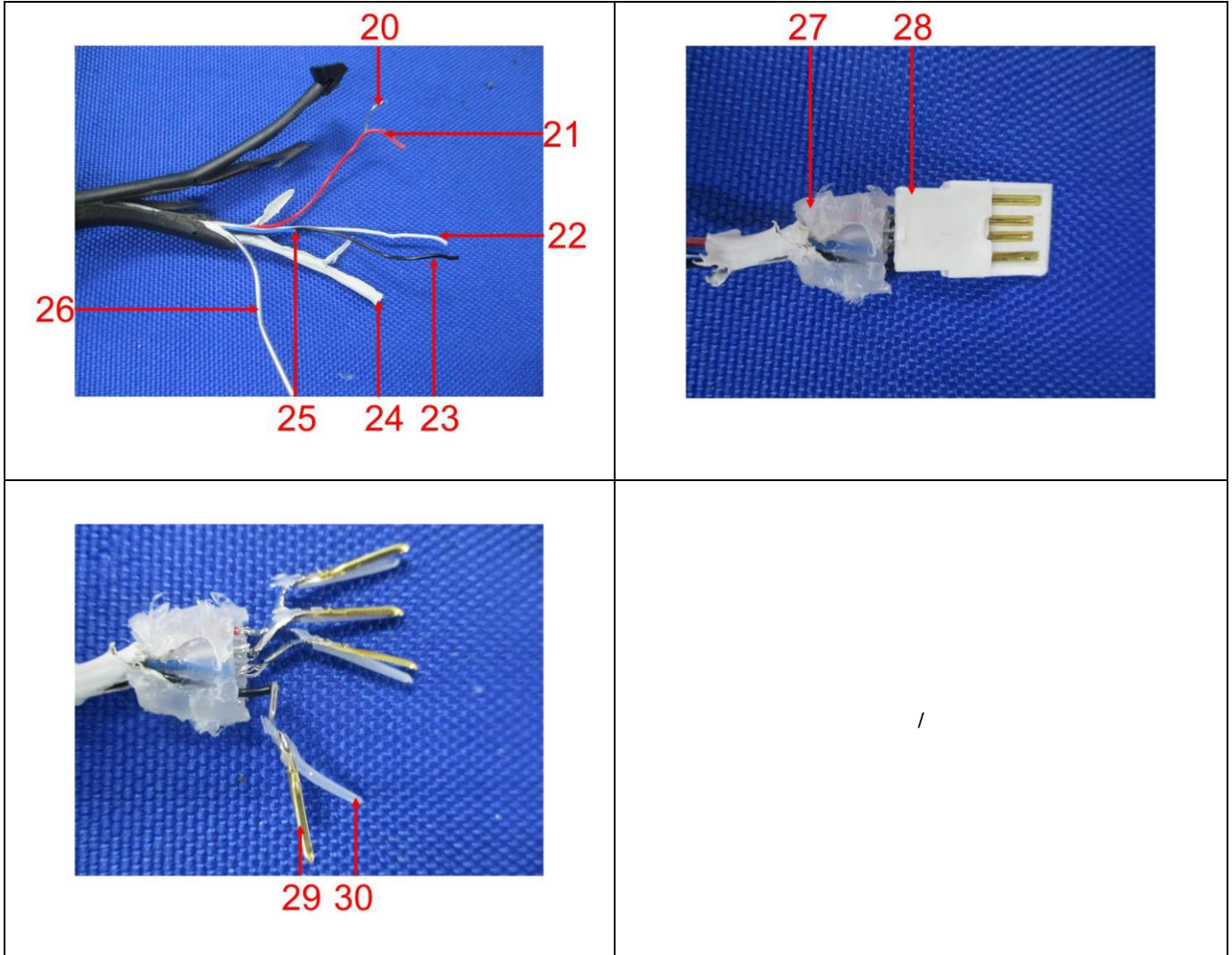
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Photo of the Submitted Sample



Photograph of test item(s)







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TEST RESULT

Compliance Test - European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Method : See Appendix.

Test Item(s)	Item / Component Description(s) + Location(s)	Style(s)
1	Black plastic (button, switch)	-
2	White and blue printed black plastic (case)	-
3	White plastic (connector, base)	-
4	Black plastic (sleeve, usb)	-
5	Grey plastic (cover, switch)	-
6	White plastic (connector, switch)	-
7	Black printed silvery metal (spring, switch)	-
8	Coppery printed silvery metal (plate, switch)	-
9	Black plastic (base, switch)	-
10	Silvery metal (case, usb)	-
11	Black plastic (inner, usb)	-
12	Black body (smd resistor"r2", pcb)	-
13	Black body (ic, pcb)	-
14	Black body (smd resistor"r1", pcb)	-
15	Brown body (smd capacitor"c2", pcb)	-
16	Yellow printed white plastic (led, pcb)	-
17	Silvery solder (pcb)	-
18	White pcb (white pcb)	-
19	Silvery metal (screw, inner)	-
20	Silvery metal (wire)	-
21	Red soft plastic (wire jacket)	-
22	White soft plastic (wire jacket)	-
23	Black soft plastic (wire jacket)	-
24	Black printed white soft plastic (sleeve, wire jacket)	-
25	Blue soft plastic (wire plastic)	-
26	Silvery metal (wire)	-
27	Translucent plastic (inner, usb)	-
28	White plastic (plate, usb)	-
29	Coppery metal (inner, usb)	-
30	Translucent plastic (inner, usb)	-

See Analytes and their corresponding Maximum Allowable Limit in Appendix

Parameter	Result						Conclusion
	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item(s)	-	-	-	-	-	-	-
1	ND	ND	ND	ND	ND	ND	PASS
2	ND	ND	ND	ND	ND	ND	PASS
3	ND	ND	ND	ND	ND	ND	PASS
4	ND	ND	ND	ND	ND	ND	PASS
5	ND	ND	ND	ND	ND	ND	PASS



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Parameter	Result						Conclusion
	Lead (Pb)	Cadmium (Cd)	Mercury (Hg)	Chromium VI (Cr VI)	PBBs	PBDEs	
Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	-
Test Item(s)	-	-	-	-	-	-	-
6	ND	ND	ND	ND	ND	ND	PASS
7	ND	ND	ND	ND	NA	NA	PASS
8	ND	ND	ND	ND	NA	NA	PASS
9	ND	ND	ND	ND	ND	ND	PASS
10	ND	ND	ND	ND	NA	NA	PASS
11	ND	ND	ND	ND	ND	ND	PASS
12	ND	ND	ND	ND	ND	ND	PASS
13	ND	ND	ND	ND	ND	ND	PASS
14	ND	ND	ND	ND	ND	ND	PASS
15	ND	ND	ND	ND	ND	ND	PASS
16	ND	ND	ND	ND	ND	ND	PASS
17	ND	ND	ND	ND	NA	NA	PASS
18	ND	ND	ND	ND	ND	ND	PASS
19	ND	ND	ND	ND	NA	NA	PASS
20	ND	ND	ND	ND	NA	NA	PASS
21	ND	ND	ND	ND	ND	ND	PASS
22	ND	ND	ND	ND	ND	ND	PASS
23	ND	ND	ND	ND	ND	ND	PASS
24	ND	ND	ND	ND	ND	ND	PASS
25	ND	ND	ND	ND	ND	ND	PASS
26	ND	ND	ND	ND	NA	NA	PASS
27	ND	ND	ND	ND	ND	ND	PASS
28	ND	ND	ND	ND	ND	ND	PASS
29	ND	ND	ND	ND	NA	NA	PASS
30	ND	ND	ND	ND	ND	ND	PASS

Note / Key :

ND = Not detected

NR = Not requested

% = percent

Detection Limit : See Appendix.

“>” = Greater than

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

10 000 mg/kg = 1 %

Remark :

- The testing approach is listed in table of Appendix.
- * denotes as reported result(s) was (were) performed by wet chemistry method. Others were screened by XRF. For XRF screening, the result(s) of Cr VI was (were) reported as total chromium and the result(s) of PBBs and PBDEs was (were) reported as total bromine. Also, the XRF result(s) may be different to the actual content based on various factors including, but not limit to, sample size, thickness, area, non-uniformity composition, surface flatness.
- According to European Parliament and Council Directive 2011/65/EU, Article 5 “Adaptation of the Annexes to scientific and technical progress”, exemption(s) should be granted to the materials and components of Test Item(s) in the lists in Annexes III and IV of this directive.



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TEST RESULT

Phthalates Test – Directive 2015/863/EU Amendment of European Parliament and Council Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS)

Test Method : With reference to International Standard IEC 62321-8.

Test Item(s)	Item / Component Description(s) + Location(s)	Style(s)
1	Black plastic (button, switch)	-
2	White and blue printed black plastic (case)	-
3	White plastic (connector, base)	-
4	Black plastic (sleeve, usb)	-
5	Grey plastic (cover, switch)	-
6	White plastic (connector, switch)	-
9	Black plastic (base, switch)	-
11	Black plastic (inner, usb)	-
13	Black body (ic, pcb)	-
16	Yellow printed white plastic (led, pcb)	-
18	White pcb (white pcb)	-
21	Red soft plastic (wire jacket)	-
22	White soft plastic (wire jacket)	-
23	Black soft plastic (wire jacket)	-
24	Black printed white soft plastic (sleeve, wire jacket)	-
25	Blue soft plastic (wire plastic)	-
27	Translucent plastic (inner, usb)	-
28	White plastic (plate, usb)	-
30	Translucent plastic (inner, usb)	-

Maximum Allowable Limit:	DEHP, BBP, DBP & DIBP: 0.1% (Each)
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Tested Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
1+2+3	ND	ND	%	PASS
4+5+6	ND	ND	%	PASS
9+11+13	ND	ND	%	PASS
16+18+21	ND	ND	%	PASS
22+23+24	ND	ND	%	PASS
25+27	ND	ND	%	PASS
28+30	ND	ND	%	PASS

Note / Key :

- ND = Not detected
- NR = Not requested
- % = percent
- Detection Limit (%) : 0.005
- “>” = Greater than
- mg/kg = milligram(s) per kilogram = ppm = part(s) per million
- 10 000 mg/kg = 1 %

Remark : The list of phthalates is summarized in table of Appendix.



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APPENDIX

List of Analytes and their Corresponding Test Methods, Detection Limit and Maximum Allowable Limit [Compliance Test for European Parliament and Council Directive 2011/65/EU] :						
No.	Name of Analytes	Detection Limit (mg/kg)				Maximum Allowable Limit (mg/kg)
		X-ray fluorescence (XRF) ^[a]			Wet Chemistry	
		Plastic	Metallic / glass / ceramic	Others		
1	Lead (Pb)	100	200	200	10 ^[b]	1 000
2	Cadmium (Cd)	50	50	50	10 ^[b]	100
3	Mercury (Hg)	100	200	200	10 ^[c]	1 000
4	Chromium (Cr)	100	200	200	NA	NA
5	Chromium VI (Cr VI)	NA	NA	NA	3 ^[g, h] / 10 ^[d] / See ^[e, j]	1 000 / Negative ^[i]
6	Bromine (Br)	200	NA	200	NA	NA
7	Polybromobiphenyls (PBBs) - Bromobiphenyl (MonoBB) - Dibromobiphenyl (DiBB) - Tribromobiphenyl (TriBB) - Tetrabromobiphenyl (TetraBB) - Pentabromobiphenyl (PentaBB) - Hexabromobiphenyl (HexaBB) - Heptabromobiphenyl (HeptaBB) - Octabromobiphenyl (OctaBB) - Nonabromobiphenyl (NonaBB) - Decabromobiphenyl (DecaBB)	NA	NA	NA	Each 50 ^[f]	Sum 1 000
8	Polybromodiphenyl ethers (PBDEs) - Bromodiphenyl ether (MonoBDE) - Dibromodiphenyl ether (DiBDE) - Tribromodiphenyl ether (TriBDE) - Tetrabromodiphenyl ether (TetraBDE) - Pentabromodiphenyl ether (PentaBDE) - Hexabromodiphenyl ether (HexaBDE) - Heptabromodiphenyl ether (HeptaBDE) - Octabromodiphenyl ether (OctaBDE) - Nonabromodiphenyl ether (NonaBDE) - Decabromodiphenyl ether (DecaBDE)	NA	NA	NA	Each 50 ^[f]	Sum 1 000

NA = Not applicable

^[a] Test method with reference to International Standard IEC 62321-3-1: 2013.

^[b] Test method with reference to International Standard IEC 62321-5: 2013.

^[c] Test method with reference to International Standard IEC 62321-4: 2017.

^[d] Polymers and Electronics - Test method with reference to European Standard EN 62321-7-2: 2017.

^[e] Metal - Test method with reference to International Standard IEC 62321-7-1: 2015 ^[i].

^[f] Test method with reference to International Standard IEC 62321-6: 2015.

^[g] Leather - Test method International Standard ISO 17075: 2007.

^[h] Other Than Metal, Leather, Polymers and Electronics - Test method with reference to International Standard ISO 17075: 2007.

^[i] The principle of this method was evaluated and supported by two studies organized by IEC TC 111 WG3. These studies were focused on detecting the presence of Cr VI in the corrosion protection coatings on metallic samples. Result(s) of Cr VI for metallic material(s) was (were) expressed in term of positive and negative. Negative means the absence of Cr VI on the tested areas and the result(s) was (were) regarded as in compliance with European Parliament and Council Directive 2011/65/EU, Article 4(1). While, positive means the presence of Cr VI on tested

^[j]



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areas and the result(s) was (were) regarded as in conflict with European Parliament and Council Directive 2011/65/EU, Article 4(1).

Testing Approach [Compliance Test for European Parliament and Council Directive 2011/65/EU] :

The testing approach was with reference to the following document(s).

- 1 International Standards IEC 62321-1: 2013 and IEC 62321-2: 2013
- 2 "RoHS Enforcement Guidance Document Version 1" by EU RoHS Enforcement Authorities Informal Network. (May 2006)
- 3 "RoHS Regulations - Government Guidance Notes" by United Kingdom Department for Business Innovation & Skills. (February 2011)
- 4 "Final Report to RoHS substances (Hg, Pb, Cr(VI), Cd, PBB and PBDE) in electrical and electronic equipment in Belgium" by Belgium Federal Public Service Health, Food Chain Safety and Environment. (November 2005)

List of Phthalates:

No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	3	Dibutyl phthalate (DBP)	84-74-2
2	Butyl benzyl phthalate (BBP)	85-68-7	4	Diisobutyl phthalate (DIBP)	84-69-5

END