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VERITAS**

TEST REPORT

Lava Group S.c / Reiter Polska Sp.z.o.o

Technical Report: (3224)082-0052

April 02, 2024

Date Received: March 22, 2024

Page 1 of 8

Lava Group S.c / Reiter Polska Sp.z.o.o
Eugeniusza Romera 4b, 02-784 Warsaw, Poland

SAMPLE INFORMATION:

Sample Description:	Metal ball pen / Metal Roller pen Colour: Black, Blue, Red, White, Green, Violet,	Style No.(s):	PD10/PK10
Sample Status:	INTACT	PO No.:	/
Manufacturer:		Country of Origin:	/
Buyer:	/	Country of Destination:	OVERSEAS

Above sample information was provided and confirmed by customers, BV is not responsible for its accuracy or completeness.

EXECUTIVE SUMMARY:

TEST REQUESTED	CONCLUSION
Polycyclic Aromatic Hydrocarbons (PAHs) Content – Regulation (EC) No. 1907/2006 Annex XVII Entry 50, Point 5	PASS
Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52	PASS
Total Cadmium Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 23 & As Cleint's requirement	PASS
Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63	PASS
Nickel Release –Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 27, Points 1(b) and 1(c)	PASS

Note: Samples are provided by customers.
The tested part of the sample was specified by client.
The composite testing was performed as per client's request.
The test conclusion was given based on the results of tested part.



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Lava Group S.c / Reiter Polska Sp.z.o.o

Technical Report: **(3224)082-0052**

April 02, 2024

Page 2 of 8

REMARK

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

Customer service

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BUREAU VERITAS TESTING TECHNICAL SERVICE (ZHEJIANG) CO.,LTD

PREPARED BY :

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LAB SUPERVISOR

Tested Component(s) Breakdown List

Test Item	Description	Location	Style
1	Transparent plastic	-	-
2	Silver metal	-	-
3	Blue plastic	-	-
4	Silver metal	-	-
5	Blue ink	-	-
6	Silver metal	spring	-
7	Blue coating	-	-
8	Black plastic	-	-
9	Silver metal	-	-
10	Red coating	-	-
11	Black coating	-	-
12	Silver metal	-	-
13	Silver metal	-	-
14	Silver metal	-	-
15	Silver metal	-	-

Polycyclic Aromatic Hydrocarbons (PAHs) Content – Regulation (EC) No. 1907/2006 Annex XVII Entry 50, Point 5

Test Method : With reference to test method mentioned in German AfPS GS 2019:01 PAK.

Parameter	Unit	Result			Maximum Allowable Limit
		1 + 3 + 8	5	7 + 10 + 11	
Benzo (a) anthracene	mg/kg	ND	ND	ND	1
Chrysene	mg/kg	ND	ND	ND	1
Benzo (b) fluoranthene	mg/kg	ND	ND	ND	1
Benzo (j) fluoranthene	mg/kg	ND	ND	ND	1
Benzo (k) fluoranthene	mg/kg	ND	ND	ND	1
Benzo (e) pyrene	mg/kg	ND	ND	ND	1
Benzo (a) pyrene	mg/kg	ND	ND	ND	1
Dibenzo (a,h) anthracene	mg/kg	ND	ND	ND	1
Conclusion	-	PASS	PASS	PASS	-

Note / Key:

ND = Not detected

Detection Limit (mg/kg):

For composite testing - Each of the listed PAHs(mg/kg) : 0.1

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

For individual testing - Each of the listed PAHs(mg/kg) : 0.2



**BUREAU
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Lava Group S.c / Reiter Polska Sp.z.o.o

Technical Report: **(3224)082-0052**

April 02, 2024

Page 4 of 8

Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52

Test Method : Reference to EN 14372:2004.

Parameter	Unit	Result			Maximum Allowable Limit
		1 + 3 + 8	5	7 + 10 + 11	
A. For toys and childcare articles	-	-	-	-	-
DBP	mg/kg	ND	ND	ND	-
BBP	mg/kg	ND	ND	ND	-
DEHP	mg/kg	ND	ND	ND	-
DIBP	mg/kg	ND	ND	ND	-
B. Additional requirements for toys and childcare articles, which can be placed in mouth by the children (See remark)	-	-	-	-	-
DnOP	mg/kg	ND	ND	ND	-
DINP	mg/kg	ND	ND	ND	-
DIDP	mg/kg	ND	ND	ND	-
Sum of DBP, BBP, DEHP, DIBP	mg/kg	ND	ND	ND	1000
Sum of DNOP, DIDP, DINP	mg/kg	ND	ND	ND	1000
Conclusion	-	PASS	PASS	PASS	-

Note / Key:

ND = Not Detected

Conc. = Concentration

Detection Limit (mg/kg): Each 50

List of Phthalates Content – Reference To Regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Dibutyl phthalate (DBP)	84-74-2	5	Di-iso-nonyl phthalate (DINP)	28553-12-0 0&68515-48-0
2	Butylbenzylphthalate (BBP)	85-68-7	6	Di-iso-decyl phthalate (DIDP)	26761-40-0 & 68515-49-1
3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	7	Diisobutyl phthalate	84-69-5
4	Di-n-octyl phthalate (DNOP)	117-84-0	-	-	-

Total Cadmium Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 23 & As Cleint's requirement

Test Method : The sample is comminuted and digested with acid mixtures, then analyzed by AAS technique or ICP-OES .

Parameter	Unit	Result				Maximum Allowable Limit
		2	4	5	6	
Cadmium (Cd)	mg/kg	ND	ND	ND	ND	100
Conclusion	-	PASS	PASS	PASS	PASS	-

Parameter	Unit	Result				Maximum Allowable Limit
		9	12	13	14	
Cadmium (Cd)	mg/kg	23.0	48.2	ND	68.0	100
Conclusion	-	PASS	PASS	PASS	PASS	-

Parameter	Unit	Result				Maximum Allowable Limit
		7	9	11	15	
Cadmium (Cd)	mg/kg	ND	ND	ND	55.1	100
Conclusion	-	PASS	PASS	PASS	PASS	-

Parameter	Unit	Result	Maximum Allowable Limit
		1+3+8	
Cadmium (Cd)	mg/kg	ND	100
Conclusion	-	PASS	-

Note / Key:

ND = Not Detected

MDL = Method Detection Limit

mg/kg = milligram per kilogram

Detection Limit (mg/kg): 10



Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63

Test Method : The sample is digested with acid, then analyzed by ICP-OES/AAS

Maximum Limit:	500 mg/kg
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Test Item(s)	Result	Unit	Conclusion
1 + 3 + 8	21.2	mg/kg	PASS
2	90.4	mg/kg	PASS
5	13.5	mg/kg	PASS
6	ND	mg/kg	PASS
7	ND	mg/kg	PASS
10	ND	mg/kg	PASS
11	ND	mg/kg	PASS
13	ND	mg/kg	PASS

Note / Key:

ND = Not Detected

MDL = Method Detection Limit

mg/kg = milligram per kilogram

Detection Limit(mg/kg): 10



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Technical Report: **(3224)082-0052**

April 02, 2024

Page 7 of 8

Nickel Release –Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 27, Points 1(b) and 1(c)

Test Method : I BS EN 1811: 2023;
II BS EN 12472: 2020 and BS EN 1811: 2023.

-	Result		
Test Item(s)	9		
Test Method	I		
Parameter	Surface Area	Test Sol. Vol.	Nickel (Ni)
Unit	cm ²	mL	mcg/sq.cm/week
Trial 1 - Measurement 1	10.8	11	ND
Trial 1 - Measurement 2	10.8	11	ND
Trial 2 - Measurement 1	10.8	11	ND
Trial 2 - Measurement 2	10.8	11	ND
Trial 3 - Measurement 1	10.8	11	ND
Trial 3 - Measurement 2	10.8	11	ND
Conclusion	PASS		

Note / Key:

mcg/sq. cm/week = microgram(s) per square centimeter per week Reporting Limit (mcg/sq. cm/week) : 0.05

Remark:

- According to BS EN 1811: 2023 with Amendment A1: 2015, Section 9.2.2.2, Test Item(s) with nickel release not exceeding 0.88 mcg/sq. cm/ week should be concluded as pass when the combined expanded measurement uncertainty of 46 % was considered. See interpretation of result(s).

Interpretation of Result(s) [EC No. 1907/2006 Annex XVII, Entry 27, Points 1(b) & 1(c)] :

Case	Description	Conclusion
I	$X \geq 0.88[a]$	FAIL
II	$X < 0.88[a]$	PASS

X = Analytical result of Nickel (Ni) release in mcg/sq. cm/week

[a] Migration limit of 0.5 mcg/sq. cm/week with the consideration of combined expanded measurement uncertainty.



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April 02, 2024

Page 8 of 8

SAMPLE REFERENCE PHOTO:



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