Laboratory Test Report

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Sample described as: COSMOS

Number of samples:	2	**Reference number(s):**	1101, 1098
Date received:	18/07/2023	**Date(s) tested:**	18/07/2023 - 24/08/2023
Packaging:	Supplied with attached labelling	**Declared age:**	N/S
Condition:	visibly undamaged condition.	**Tested age grade:**	N/A
Batch:	N/S	**PO/Order number:**	N/S

Description: Cosmos- Stargazer
Cosmos- Orbit

Photo of submitted sample

Prepared by

Mathew Boddy, Analytical Lab Supervisor

For and on behalf of
Eurofins MTS Consumer Product Testing UK Ltd

Gareth Kirkland, Technical Services Manager
Date: 24/08/2023

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TEST RESULT SUMMARY	
Test requested	**Result**
EN 71-3:2019 + A1:2021 – Migration of Certain Elements	**PASS**
EN 71-3:2019 + A1:2021 – Chromium VI Speciation Analysis*	**PASS**

Note: Testing marked * was performed by a Eurofins Global partner lab.

COMPONENT BREAKDOWN LIST:

Test Item	Component description	Material
A	COSMOS	
A1	Orbit sequins	Category III
A2	Orbit yarn	Category III
A3	Stargazer sequins	Category III
A4	Stargazer yarn	Category III

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TEST RESULTS

EN 71-3:2019 + A1:2021 – Migration of Certain Elements

Analyte		Results (mg/kg)									
		A1	A2	A3	A4	-	-	-	-	-	-
Boron	B	<4	5.2	<4	<4	-	-	-	-	-	-
Aluminium	Al	<3	8	<3	<3	-	-	-	-	-	-
Chromium	Cr	<0.03	**0.11***	<0.03	<0.03	-	-	-	-	-	-
Manganese	Mn	<1	<1	<1	<1	-	-	-	-	-	-
Cobalt	Co	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-
Nickel	Ni	<1	<1	<1	<1	-	-	-	-	-	-
Copper	Cu	1.3	1	<1	<1	-	-	-	-	-	-
Zinc	Zn	1.1	8	2	<1	-	-	-	-	-	-
Arsenic	As	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-
Selenium	Se	<3	<3	<3	<3	-	-	-	-	-	-
Strontium	Sr	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
Cadmium	Cd	<0.03	<0.03	<0.03	<0.03	-	-	-	-	-	-
Tin	Sn	<2	<2	<2	<2	-	-	-	-	-	-
Antimony	Sb	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
Barium	Ba	4.8	<2	<2	<2	-	-	-	-	-	-
Mercury	Hg	<0.3	<0.3	<0.3	<0.3	-	-	-	-	-	-
Lead	Pb	0.7	<0.3	1.2	<0.3	-	-	-	-	-	-
Conclusion		PASS	PASS	PASS	PASS	-	-	-	-	-	-

Method: EN 71-3:2019 + A1:2021 using ICP-MS.

Notes: mg/kg = milligram per kilogram
"<" = less than
" * " = inference with the specific chromium VI limit was not possible based on total chromium migration result. Chromium VI speciation testing was performed determine compliance; please see conclusion.

UoM:

Analyte	Uncertainty (%)	Analyte	Uncertainty (%)	Analyte	Uncertainty (%)
Boron	20.62	Copper	20.62	Tin	33.17
Aluminium	20.62	Zinc	20.62	Antimony	33.17
Chromium	24.50	Arsenic	24.50	Barium	33.17
Manganese	20.62	Selenium	24.50	Mercury	33.17
Cobalt	24.50	Strontium	20.62	Lead	33.17
Nickel	24.50	Cadmium	24.50		

Limits:

Analyte	Cat. I	Cat. II	Cat. III	Analyte	Cat. I	Cat. II	Cat. III
Boron	1,200	300	15,000	Selenium	37.5	9.4	460
Aluminium	2,250	560	28,130	Strontium	4,500	1,125	56,000
Chromium III	37.5	9.4	460	Cadmium	1.3	0.3	17
Chromium VI	0.02	0.005	0.053	Tin	15,000	3,750	180,000
Manganese	1,200	300	15,000	Organic Tin	0.9	0.2	12
Cobalt	10.5	2.6	130	Antimony	45	11.3	560
Nickel	75	18.8	930	Barium	1,500	375	18,750
Copper	622.5	156	7,700	Mercury	7.5	1.9	94
Zinc	3,750	938	46,000	Lead	2.0	0.5	23
Arsenic	3.8	0.9	47				

CONCLUSION

The EN 71-3 screening test performed by Eurofins Consumer Product Testing UK tests for the migration of 16 of the 19 elements restricted by EN 71-3:2019+A1:2021.

It does not analyse for the migration of chromium III, chromium VI, and organic tin, however, suitably low result for overall chromium and overall tin migration may be used to infer compliance with these limits.

Analysis of the sample(s) found that migration of the 16 elements restricted elements did not exceed the respective category limits, and therefore comply with the requirements of EN 71-3:2019+A1:2021.

Overall tin migration from the sample(s) was found to not exceed the in-house inference limit and can therefore be inferred as complying with the requirement for organic tin.

Overall chromium migration from the sample(s) was found to not exceed the in-house inference limit for chromium III and can therefore be inferred as complying with the requirements for chromium III.

Overall chromium migration from sample(s) A3 was found to exceed the in-house inference limit for chromium VI, and so specific chromium VI migration analysis was required to confirm compliance with the limit. Testing was performed by a Eurofins Global partner laboratory and the following results were obtained:

Test Item	Chromium VI Migration (mg/kg)	Conclusion
A3	< 0.053	PASS

Overall tin migration from the remaining sample(s) was found to not exceed the in-house inference limit for chromium VI and can therefore be inferred as complying with the requirement for chromium VI.

End of Report

ANNEX A: DECISION RULES

Rule 1	Applicable to any requirement stated to be 'Minimum xxxx' or 'Maximum xxxx': The use of constrained simple acceptance based on the difference between the stated limit (requirement) and the reported test result being greater than the measurement uncertainty (U) for a conformity probability of 95%. The risk of false accept or false reject is <= 2.5%
Rule 2	Applicable to any requirement stated to be a range (e.g. XXX to YYY or AAA ± B): The use of constrained simple acceptance based on the difference between the stated upper or lower limit (requirement) and the reported test result being greater than the measurement uncertainty (U) for a conformity probability of 95%. The risk of false accept or false reject is <= 2.5%
Rule 3	For tests based on subjective grading of a result using a 9-point scale (e.g. colour fastness, pilling, etc): Simple acceptance based on the test uncertainty ratio (T.U.R.) being ?4. The risk of false accept or false reject is up to 50% but will be reduced the further the reported result is away from the stated requirement.
Rule 4	IFor tests based on a subjective assessment of a property (e.g. whether a component detaches or not): Simple acceptance based upon the conditions of testing falling within the criteria for test set out in the test method within a conformance probability of 95%. The risk of false accept or false reject of the testing conditions not meeting the specified requirements is 2.5%.
Rule 5	If a validated test method (e.g. BS EN ISO standard) indicates that the measurement uncertainty has already been taken into account when calculating the test result then results may be reported using simple acceptance without the need for the application of the relevant decision rule set out above.

The above rules will be applied by default unless we have agreed a decision rule to the contrary. Eurofins MTS Consumer Product Testing UK Limited reserves the right to refuse to apply decision rules that do not satisfy the requirements of ISO 17025:2017. Unless otherwise stated in the report text above, uncertainty of measurement values are available upon request.