TOYTEST

Toy Safety Analytes Proficiency Testing Scheme

Scheme Description

LGC Proficiency Testing
1 Chamberhall Business Park
Chamberhall Green
Bury
Lancashire
BL9 0AP
United Kingdom

Telephone: +44 (0) 161 762 2500
Email: axiopt@lgcgroup.com
Website www.lgcstandards.com

Record of issue status and modifications

ISSUE	ISSUE DATE	DETAILS	AUTHORISED BY
11	Sept 2014	Updated details for EN71-7. Metal ranges updated. Inclusion of traceability information in Appendix A. Inclusion of subcontracting information in 'Test Materials' section.	W.Gaunt
12	April 2015	Amendment to size of the standard solution for sample 10, phthalates. SDPA values updated for various parameters.	W.Gaunt
13	Sept 2015	Removed Hard copy report information. Sample 4 (EN71-7) removed Regulation references included	A.McCarthy W.Gaunt
14	Jan 2016	EN71-3 standard solution details amended	W.Gaunt
15	Sept 2016	Addition of statement for EN71-3 real test materials. Details added for electrical testing.	W.Gaunt
16	Sept 2017	Sample 3 – SDPA values updated for paint flakes.	W.Gaunt
17	July 2018	Phthalate details updated, SDPA updated for flux testing. SDPA updated for liquid paint	W.Gaunt
18	Sept 2018	General revision of headers, Addition of sample 16 (Bisphenol A in plastic)	W.Gaunt
19	Aug 2019	Minor amendment to descriptions for crayons and real phthalates	W.Gaunt
20	Jan 2020	Addition of CAS numbers for sample 10 (phthalates)	W.Gaunt
21	Sep 2020	Addition of boron, general revision of sample descriptions for EN71-3	W.Gaunt
22	June 2021	Addition of total nickel for sample 9 Addition of sample 18	W.Gaunt S. Xystouris
23	July 2021	Updated email address and UKAS logo DEP added to sample 10S & 10R, chromium VI & organic tin removed from real EN71-3 samples. Addition of sample 19. Additional methods included for samples 11, 12 & 13	A Collins W.Gaunt S Xystouris
24	Jan 2022	Sample 17 separated into total and soluble boron. Total tin and total mercury added to sample 9. Description updated for sample 19	W.Gaunt
25	Sept 2022	Ranges updated for sample 3 and TY16 added. Chromium III removed from sample 3. New sample added for aniline (sample 20). Sample 19 details updated. Units and DPs updated for sample 18	W.Gaunt
26	June 2023	Min SDPA applied for 10S, new SDPA values applied for 10R & 10S (10R also moved to 3DP), Added TY-21 and TY-22. General document revision	W.Gaunt S.Xystouris
27	Sept 2023	Removed Sample 8 Added two new samples	S. Xystouris

Notes:
Where this document has been translated, the English version shall remain the definitive version

Scheme Aims and Organisation
The primary aim of the toy safety proficiency testing scheme (TOYTEST) is to enable laboratories assessing toy products to the European and American toy standards to monitor their performance and compare it with that of their peers. TOYTEST also aims to provide information to participants on technical issues and methodologies relating to the examination of toys.

The TOYTEST scheme year operates from January to December. Further information about TOYTEST, including test material availability, round despatch dates and reporting deadlines, are available on the current TOYTEST application form.

Test Materials
Details of test materials available in TOYTEST are given in Appendix A. The test parameters are continually reviewed to ensure they meet the needs of current laboratory testing and regulatory requirements.

Test material batches are tested for homogeneity for at least one test parameter where deemed appropriate. Details of homogeneity tests performed and results are given in the TOYTEST Scheme Reports.

Some aspects of the scheme, such as test material production, homogeneity testing and stability assessment, can from time to time be subcontracted. When subcontracting occurs, it is placed with a competent subcontractor and LGC is responsible for this work. The planning of the scheme, the evaluation of performance and the authorisation of the final report will never be subcontracted.

Statistical Analysis
Information on the statistics used in TOYTEST can be found in the General Protocol and in the Scheme Report. Methods for determining assigned values and the values for SDPA used for individual samples are given in Appendix A

Methods
Methods are listed in PORTAL. Please select the most appropriate method from the list. If none of the methods are appropriate, then please report your method as ‘Other’ and record a brief description in the Comments Section in PORTAL.

Results and Reports
TOYTEST results are returned through our electronic reporting software, PORTAL, full instructions for which are provided by email.

TOYTEST reports will be available on the website within 15 working days of round closure. Participants will be emailed a link to the report when it is available.

APPENDIX A - Description of abbreviations used

Assigned Value (AV)

The assigned value may be derived in the following ways:

- From the robust mean (median) of participant results (RMean). This is the median of participant results after the removal of test results that are inappropriate for statistical evaluation, e.g. miscalculations, transpositions and other gross errors. Generally, the assigned value will be set using results from all methods, unless the measurement is considered method-dependant, in which case the assigned value will be set by method as illustrated in the report tables.
  For some analytes, where there is a recognised reference method for that type of measurement, this may be used as the assigned value for a particular analyte i.e. it would be applied to results obtained by any method.

  Traceability: Assigned values which are derived from the participant results, or a sub-set of the results are not traceable to an international measurement standard. The uncertainty of assigned values derived in this way is estimated from the participant results, according to ISO 13528.

- From a formulation value (Formulation). This denotes the use of an assigned value derived from sample preparation details, where known and exact quantities of analyte have been used to prepare the sample.

  Traceability: Assigned values calculated from the formulation of the test sample are traceable, via an unbroken metrological traceability chain, to an international measurement standard. The measurement uncertainty of the assigned value is calculated using the contributions from each calibration in the traceability chain.

- From a qualitative formulation (Qual Form). This applies to qualitative tests where the assigned value is simply based on the presence/absence of the analyte in the test material.

  Traceability: Assigned values calculated from the qualitative formulation of the test sample are traceable to a certified reference standard or a microbiological reference strain.

- From expert labs (Expert). The assigned value for the analyte is provided by an ‘expert’ laboratory.

  Traceability: Assigned values provided by an ‘expert’ laboratory may be traceable to an international measurement standard, according to the laboratory and the method used. The uncertainty of measurement for an assigned value produced in this way will be provided by the laboratory undertaking the analysis. Details of traceability and the associated uncertainty will be provided in the report for the scheme/round.

Determination of the assigned values for both the EN71-1 and ASTM F963 paper exercises:

- The results returned are reviewed and the assigned value for each clause listed is based on the general consensus of participant results.

- If the consensus of the participants is below 75% the identified clauses are each reviewed by the TOYTEST advisory group to ascertain their overall opinion of the appropriate assigned value with regards to the toy provided. If the overall consensus of the TOYTEST advisory group disagrees with the general participant consensus then the assigned value is amended.

- Where applicable the reasoning behind the assigned values provided for such clauses will be provided in the main EN71-1 or ASTM F963 report.

Where both the 'relevant' and 'not relevant' options are both deemed to be valid options the assigned value(s) will be removed and instead the participant results and comments will be provided along with additional detailed comments on the applicability of the two reporting options

Range
This indicates the concentration range at which the analyte may be present in the test material.

SDPA
SDPA represents the 'standard deviation for proficiency assessment' which is used to assess participant performance for the measurement of each analyte. This may be a fixed value (as stated), a percentage (%) of the assigned value or based on the robust standard deviation of the participant measurement results, either across all methods or by method depending on whether the measurement made is method dependent (see assigned value).

Units
This indicates the units used for the assessment of data. These are the units in which participants should report their results. For some analytes in some schemes participants may have a choice of which units to report their results, however, the units stipulated in this scheme description are the default units to which any results reported using allowable alternative results will be converted to.

DP
This indicates the number of decimal places to which participants should report their measurement results.

Sample PT-TY-01 **EN71-1**
Supplied as: Toy product provided for paper exercise

Analyte	Method	Range	AV	SDPA	Units	DP
Assessment to EN71-1	N/A	N/A	Expert/ Consensus	N/A	N/A	N/A

Sample PT-TY-07 **ASTM F963**
Supplied as: Toy product provided for paper exercise

Analyte	Method	Range	AV	SDPA	Units	DP
Assessment to ASTM F963	N/A	N/A	Expert/ Consensus	N/A	N/A	N/A

Samples PT-TY-11,12 & 13 **Additional testing**
Supplied as: Material provided for additional testing (various parameters)

Analyte (as applicable)	Standards	Range	AV	SDPA	Units	DP
Cord thickness	EN71-1, ASTM F963	All	RMean	0.2	mm	2
Plastic sheeting thickness	EN71-1, ASTM F963, SRS-033	All	RMean	0.003 / 0.001	mm / inches	3 / 5
Acoustic analysis	EN71-1, SRS-028	All	RMean	3	dB	1
Kinetic energy	EN71-1, ASTM F963, SRS-045	All	RMean	Robust SD	Joules (J)	3
Other measurements	EN71-1, ASTM F963*	All	RMean	Robust SD	mm	2

*Where applicable. Full details to be provided in the round instruction sheets.

Sample PT-TY-02 **EN71-2**
Supplied as: Toy product provided for flammability testing

Analyte (as applicable)	Method	Range	AV	SDPA	Units	DP
Assessment to EN71-2	N/A	N/A	Expert/ Consensus	N/A	N/A	N/A
Duration of flaming	Various	All	RMean	Robust SD	seconds	0
Rate of spread of flame	Section 4 (EN71-1)	All	RMean	3	mm/s	1
Flaming debris	Various	N/A	RMean	N/A	N/A	N/A

Sample PT-TY-03 **EN71-3 Standard solution (Bottle 1)**
Supplied as: 25ml aqueous solution

Analyte	Method	Range	AV	SDPA	Units	DP
Aluminium	All	0 to 1000	Formulation	10% of AV (min 0.3)	mg/L	2
Antimony	All	0 to 5	Formulation	10% of AV (min 0.3)	mg/L	2
Arsenic	All	0 to 5	Formulation	10% of AV (min 0.3)	mg/L	2
Barium	All	0 to 500	Formulation	10% of AV (min 0.3)	mg/L	2
Boron	All	0 to 300	Formulation	10% of AV (min 0.3)	mg/L	2
Cadmium	All	0 to 2	Formulation	10% of AV (min 0.3)	mg/L	2
Chromium*	All	0 to 10	Formulation	10% of AV (min 0.3)	mg/L	2
Cobalt	All	0 to 10	Formulation	10% of AV (min 0.3)	mg/L	2
Copper	All	0 to 150	Formulation	10% of AV (min 0.3)	mg/L	2
Lead	All	0 to 2	Formulation	10% of AV (min 0.3)	mg/L	2
Manganese	All	0 to 300	Formulation	10% of AV (min 0.3)	mg/L	2
Mercury	All	0 to 2	Formulation	10% of AV (min 0.3)	mg/L	2
Nickel	All	0 to 200	Formulation	10% of AV (min 0.3)	mg/L	2
Selenium	All	0 to 10	Formulation	10% of AV (min 0.3)	mg/L	2
Strontium	All	0 to 500	Formulation	10% of AV (min 0.3)	mg/L	2
Tin	All	0 to 500	Formulation	10% of AV (min 0.3)	mg/L	2
Zinc	All	0 to 500	Formulation	10% of AV (min 0.3)	mg/L	2

*Sum of all oxidation states

Sample PT-TY-03 **EN71-3 Standard solution (Bottle 2)**
Supplied as: 25ml aqueous solution

Analyte	Method	Range	AV	SDPA	Units	DP
Chromium VI	All	0 to 1000	Formulation	10% of AV	µg/L	2
Organic tin	All	0 to 1000	Formulation	Robust SD	µg/L	2

Sample PT-TY-03 **EN71-3 Real material (textiles only)**
Supplied as: 0.5g textile designed to replicate common metal analysis in toy products

Analyte*	Method	Range***	AV	SDPA	Units	DP
Aluminium	All	0 to 200	RMean	Robust SD	mg/kg	2
Antimony	All	0 to 60	RMean	30% of AV	mg/kg	2
Arsenic	All	0 to 200	RMean	30% of AV	mg/kg	2
Barium	All	0 to 250	RMean	15% of AV	mg/kg	2
Boron	All	0 to 200	RMean	Robust SD	mg/kg	2
Cadmium	All	0 to 50	RMean	15% of AV	mg/kg	2
Chromium**	All	0 to 100	RMean	15% of AV	mg/kg	2
Cobalt	All	0 to 50	RMean	Robust SD	mg/kg	2
Copper	All	0 to 60	RMean	Robust SD	mg/kg	2
Lead	All	0 to 200	RMean	15% of AV	mg/kg	2
Manganese	All	0 to 60	RMean	Robust SD	mg/kg	2
Mercury	All	0 to 50	RMean	25% of AV	mg/kg	2
Nickel	All	0 to 200	RMean	Robust SD	mg/kg	2
Selenium	All	0 to 100	RMean	30% of AV	mg/kg	2
Strontium	All	0 to 200	RMean	Robust SD	mg/kg	2
Tin	All	0 to 100	RMean	Robust SD	mg/kg	2
Zinc	All	0 to 200	RMean	Robust SD	mg/kg	2

*One or more of the above elements to be included in each round.

**Sum of all oxidation states

***Please note that levels may periodically be outside of the approximate range given due to the natural levels that may be present in materials chosen for testing.

Sample PT-TY-03 **EN71-3 Real material (paint flakes only)**
Supplied as: 0.5g paint flakes designed to replicate common metal analysis in toy products

Analyte*	Method	Range***	AV	SDPA	Units	DP
Aluminium	All	0 to 200	RMean	Robust SD	mg/kg	2
Antimony	All	0 to 60	RMean	20% of AV	mg/kg	2
Arsenic	All	0 to 200	RMean	20% of AV	mg/kg	2
Barium	All	0 to 250	RMean	15% of AV	mg/kg	2
Boron	All	0 to 200	RMean	Robust SD	mg/kg	2
Cadmium	All	0 to 50	RMean	15% of AV	mg/kg	2
Chromium**	All	0 to 100	RMean	15% of AV	mg/kg	2
Cobalt	All	0 to 50	RMean	Robust SD	mg/kg	2
Copper	All	0 to 60	RMean	Robust SD	mg/kg	2
Lead	All	0 to 200	RMean	15% of AV	mg/kg	2
Manganese	All	0 to 60	RMean	Robust SD	mg/kg	2
Mercury	All	0 to 50	RMean	25% of AV	mg/kg	2
Nickel	All	0 to 200	RMean	Robust SD	mg/kg	2
Selenium	All	0 to 100	RMean	20% of AV	mg/kg	2
Strontium	All	0 to 200	RMean	Robust SD	mg/kg	2
Tin	All	0 to 100	RMean	Robust SD	mg/kg	2
Zinc	All	0 to 200	RMean	Robust SD	mg/kg	2

*One or more of the above elements to be included in each round.

**Sum of all oxidation states

***Please note that levels may periodically be outside of the approximate range given due to the natural levels that may be present in materials chosen for testing.

Sample PT-TY-03 **EN71-3 Real material (liquid paint only)**
Supplied as: 30ml liquid paint for metal analysis in toy products

Analyte*	Method	Range***	AV	SDPA	Units	DP
Aluminium	All	0 to 200	RMean	Robust SD	mg/kg	2
Antimony	All	0 to 60	RMean	15% of AV (min 1.5)	mg/kg	2
Arsenic	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2
Barium	All	0 to 250	RMean	15% of AV (min 1.5)	mg/kg	2
Boron	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2
Cadmium	All	0 to 50	RMean	15% of AV (min 1.5)	mg/kg	2
Chromium**	All	0 to 100	RMean	15% of AV (min 1.5)	mg/kg	2
Cobalt	All	0 to 50	RMean	15% of AV (min 1.5)	mg/kg	2
Copper	All	0 to 60	RMean	15% of AV (min 1.5)	mg/kg	2
Lead	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2
Manganese	All	0 to 60	RMean	15% of AV (min 1.5)	mg/kg	2
Mercury	All	0 to 50	RMean	15% of AV (min 1.5)	mg/kg	2
Nickel	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2
Selenium	All	0 to 100	RMean	15% of AV (min 1.5)	mg/kg	2
Strontium	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2
Tin	All	0 to 100	RMean	15% of AV (min 1.5)	mg/kg	2
Zinc	All	0 to 200	RMean	15% of AV (min 1.5)	mg/kg	2

*One or more of the above elements to be included in each round.

**Sum of all oxidation states

***Please note that levels may periodically be outside of the approximate range given due to the natural levels that may be present in materials chosen for testing.

Sample PT-TY-03 **EN71-3 Real material (wax crayons only)**
Supplied as: 5g wax crayons for metal analysis in toy products

Analyte*	Method	Range***	AV	SDPA	Units	DP
Aluminium	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Antimony	All	0 to 60	RMean	25% of AV (min 1.5)	mg/kg	2
Arsenic	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Barium	All	0 to 250	RMean	25% of AV (min 1.5)	mg/kg	2
Boron	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Cadmium	All	0 to 50	RMean	25% of AV (min 1.5)	mg/kg	2
Chromium**	All	0 to 100	RMean	25% of AV (min 1.5)	mg/kg	2
Cobalt	All	0 to 50	RMean	25% of AV (min 1.5)	mg/kg	2
Copper	All	0 to 60	RMean	25% of AV (min 1.5)	mg/kg	2
Lead	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Manganese	All	0 to 60	RMean	25% of AV (min 1.5)	mg/kg	2
Mercury	All	0 to 50	RMean	25% of AV (min 1.5)	mg/kg	2
Nickel	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Selenium	All	0 to 100	RMean	25% of AV (min 1.5)	mg/kg	2
Strontium	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2
Tin	All	0 to 100	RMean	25% of AV (min 1.5)	mg/kg	2
Zinc	All	0 to 200	RMean	25% of AV (min 1.5)	mg/kg	2

*One or more of the above elements to be included in each round.

**Sum of all oxidation states

***Please note that levels may periodically be outside of the approximate range given due to the natural levels that may be present in materials chosen for testing.

Sample PT-TY-03 **EN71-3 Real material (chalk only)**
Supplied as: 5g chalk material for metal analysis in toy products

Analyte*	Method	Range***	AV	SDPA	Units	DP
Aluminium	All	All	RMean	Robust SD	mg/kg	2
Antimony	All	All	RMean	Robust SD	mg/kg	2
Arsenic	All	All	RMean	Robust SD	mg/kg	2
Barium	All	All	RMean	Robust SD	mg/kg	2
Boron	All	All	RMean	Robust SD	mg/kg	2
Cadmium	All	All	RMean	Robust SD	mg/kg	2
Chromium**	All	All	RMean	Robust SD	mg/kg	2
Cobalt	All	All	RMean	Robust SD	mg/kg	2
Copper	All	All	RMean	Robust SD	mg/kg	2
Lead	All	All	RMean	Robust SD	mg/kg	2
Manganese	All	All	RMean	Robust SD	mg/kg	2
Mercury	All	All	RMean	Robust SD	mg/kg	2
Nickel	All	All	RMean	Robust SD	mg/kg	2
Selenium	All	All	RMean	Robust SD	mg/kg	2
Strontium	All	All	RMean	Robust SD	mg/kg	2
Tin	All	All	RMean	Robust SD	mg/kg	2
Zinc	All	All	RMean	Robust SD	mg/kg	2

*One or more of the above elements to be included in each round.

**Sum of all oxidation states

***Please note that levels may periodically be outside of the approximate range given due to the natural levels that may be present in materials chosen for testing.

Sample PT-TY-05 **EN71-8**
Supplied as: Information and/or actual toy product(s) provided for paper exercise

Analyte	Method	Range	AV	SDPA	Units	DP
Assessment to EN71-8	N/A	N/A	Expert	N/A	N/A	N/A

Sample PT-TY-09 **Analysis of total elements**
Supplied as: 0.5g dried paint flakes

Analyte	Method	Range	AV	SDPA	Units	DP
Total cadmium	All	All	RMean	10% of AV	mg/kg	2
Total lead	All	All	RMean	10% of AV	mg/kg	2
Total chromium	All	All	RMean	10% of AV	mg/kg	2
Total nickel	All	All	RMean	10% of AV	mg/kg	2
Total tin	All	All	RMean	Robust SD	mg/kg	2
Total mercury	All	All	RMean	Robust SD	mg/kg	2

Sample PT-TY-10R **Analysis of phthalates**
Supplied as: 6g rubber material

Analyte	CAS	Method	Range	AV	SDPA	Units	DP
BBP *(Benzylbutylphthalate)*	85-68-7	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DBP *(Dibutyl phthalate)*	84-74-2	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DEHP *(Bis(2-ethylhexyl)phthalate)*	117-81-7	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DnOP *(Di-n-octyl phthalate)*	117-84-0	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DINP *(Diisononyl phthalate)*	68515-48-0	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DIDP *(Diisodecyl phthalate)*	26761-40-0	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DIBP *(Diisobutyl phthalate)*	84-69-5	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DIHP *(Diisoheptyl phthalate)*	71888-89-6	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DnHP *(Dihexyl phthalate)*	84-75-3	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DPP *(Dipentyl phthalate)*	131-18-0	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DMEP *(Bis(2-methoxyethyl) phthalate)*	117-82-8	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DCHP *(Dicyclohexyl phthalate)*	84-61-7	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3
DEP *(Diethyl phthalate)*	84-66-2	All	All	RMean	15% of AV (min 0.01)	% (w/w)	3

Sample PT-TY-10S **Analysis of phthalates**
Supplied as: 2 x 1ml standard solution (in hexane)

Analyte		Method	Range	AV	SDPA	Units	DP
BBP *(Benzylbutylphthalate)*	85-68-7	All	All	Formulation	10% of AV	mg/L	2
DBP *(Dibutyl phthalate)*	84-74-2	All	All	Formulation	10% of AV	mg/L	2
DEHP *(Bis(2-ethylhexyl)phthalate)*	117-81-7	All	All	Formulation	10% of AV	mg/L	2
DnOP *(Di-n-octyl phthalate)*	117-84-0	All	All	Formulation	15% of AV	mg/L	2
DINP *(Diisononyl phthalate)*	68515-48-0	All	All	Formulation	15% of AV	mg/L	2
DIDP *(Diisodecyl phthalate)*	26761-40-0	All	All	Formulation	15% of AV	mg/L	2
DIBP *(Diisobutyl phthalate)*	84-69-5	All	All	Formulation	10% of AV	mg/L	2
DIHP *(Diisoheptyl phthalate)*	71888-89-6	All	All	Formulation	15% of AV	mg/L	2
DnHP *(Dihexyl phthalate)*	84-75-3	All	All	Formulation	10% of AV	mg/L	2
DPP *(Dipentyl phthalate)*	131-18-0	All	All	Formulation	10% of AV	mg/L	2
DMEP *(Bis(2-methoxyethyl) phthalate)*	117-82-8	All	All	Formulation	10% of AV	mg/L	2
DCHP *(Dicyclohexyl phthalate)*	84-61-7	All	All	Formulation	10% of AV	mg/L	2
DEP *(Diethyl phthalate)*	84-66-2	All	All	Formulation	10% of AV	mg/L	2

Text written in italics is for reference purposes only and will not feature in the published report.

Sample PT-TY-14* ** **Flux testing (EN71-1 & ASTM F963)**
Supplied as: Magnets for analysis

Analyte	Method	Range	AV	SDPA	Units	DP
Flux testing	All	All	RMean	20% of AV	kG^2mm^2	2

Sample PT-TY-15* ** **Electrical testing**
Supplied as: Toy or similar for assessment

Analyte	Method	Range	AV	SDPA	Units	DP
Temperature rise	EN62115	-	-	-	K	1

Sample PT-TY-16* ** **Bisphenol A in plastic (total content)**
Supplied as 20g plastic bead or pellet

Analyte	Method	Range	AV	SDPA	Units	DP
Bisphenol A	LC-MS/MS	All	RMean	Robust SD	mg/kg	2

Sample PT-TY 17* **Boron in toy slime (based on the Toy Safety Directive/EN 71-3)**
Supplied as: 50g 'slime' product

Analyte*	Method	Range	AV	SDPA	Units	DP
Total boron	All	All	RMean	Robust SD	mg/kg	1
Soluble boron	All	All	RMean	Robust SD	mg/kg	1

Sample PT-TY-18* **Total lead & total cadmium in jewellery (REACH regulation)**
Supplied as: 2 x 1g sample

Analyte	Method	Range	AV	SDPA	Units	DP
Total cadmium	All	All	RMean	Robust SD	%	2
Total lead	All	All	RMean	Robust SD	mg/kg	0

Sample PT-TY-19* **Flammability of moulded plastic material**
Supplied as: Commercially available toy product provided for flammability testing

Analyte (as applicable)	Method	Range	AV	SDPA	Units	DP
Rate of spread of flame	ASTM F963-17, 16 CFR § 1500.44, SRS-013	All	RMean	Robust SD	inches/s	1

Sample PT-TY-20* **Aniline in toy materials**
Supplied as: Toy product provided for aniline testing

Analyte	Method	Range	AV	SDPA	Units	DP
Aniline (62-53-3)	HPLC/DAD, UHPLC-UV, LC- MS/MS, GC MS	All	RMean	Robust SD	mg/kg of free aniline	2

Sample PT-TY-21* **Hazardous heavy metal analysis in rubber (Cadmium)**
Supplied as: 1g of rubber

Analyte	Method	Range	AV	SDPA	Units	DP
Total cadmium	ICP-OES, AAS, AFS, ICP-MS (IEC 62321-5:2013)	All	RMean	Robust SD	mg/kg	3

Sample PT-TY-22* **Nonylphenol in baby textiles**
Supplied as: 5g of textile

Analyte	Method	Range	AV	SDPA	Units	DP
Nonylphenol	HPLC/MS/MS GC/MS/MS GC/MS Republic of Korea 2018-0032 (2018.3.5.)	All	RMean	Robust SD	mg/kg	2

Sample PT-TY-23 **Toy product labelling**
Supplied as: Information and/or actual toy product(s) provided for paper exercise

Analyte	Method	Range	AV	SDPA	Units	DP
Assessment to Toy Safety standard clauses (to be specified)	N/A	N/A	Expert	N/A	N/A	N/A

Sample PT-TY-24 **Chlorinated paraffins (SCCPs and MCCPs) in consumer testing products and toys**
Supplied as: To be confirmed

Analyte	Method	Range	AV	SDPA	Units	DP
SCCPs	LC-MS/MS, Other (please specify)	All	RMean	Robust SD	mg/kg	1
MCCPs	LC-MS/MS, Other (please specify)	All	RMean	Robust SD	mg/kg	1

***Not currently included in LGC's UKAS Scope of Accreditation