

Criteria for the award of Green Product Mark

Biobased Plastic Toys (non-electrical)



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Foreword

The work of selecting and developing criteria for the award of Green Product Mark is carried out through Global 2 PfG-E Technical Committees (PTC) convened by TÜV Rheinland. Interested parties participate in the selection and development of criteria for the award of Green Product Mark through either PTC membership or stakeholder consultation mechanism.

Criteria for the award of Green Product Mark are drafted in accordance with the rules given in following standards and guides:

- ISO/IEC Directives, Part 1 and Part 2
- ISO/IEC Guide 21, Part 1 and Part 2
- ISO Guide 64
- ISO Guide 82
- ISO 14024
- US EPA Guidelines for Environmental Performance Standards and Ecolabels for Use in Federal Procurement
- ISEAL Code of Good Practice for Setting Social and Environmental Standards

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. TÜV Rheinland shall not be held responsible for identifying any or all such patent rights.

This document was developed using a multi-stakeholder approach involving experts from multiple stakeholder groups including but not limited to consumers, government, industry, labour, non-governmental organizations (NGOs), and service, support, research, academics. Although efforts were made to ensure balanced participation of all the stakeholder groups, a full and equitable balance of stakeholders was constrained by various factors, including the availability of resources and the need for English language skills.

Introduction

Product environmental labels are claims which indicate the environmental aspects of a product and provide information about a product in terms of its overall environmental character, a specified environmental aspect, or any number of aspects. Green Product Mark is a voluntary environmental labelling scheme operating in accordance with ISO 14020 *Environmental labels and declarations – General principles* and ISO 14024 *Environmental labels and declarations – Type I environmental labelling – Principles and procedures*. Green Product Mark has been developed in accordance with ISO/IEC 17067 *Conformity assessment – Fundamentals of product certification and guidelines for product certification schemes*. Certification activities under Green Product Mark scheme shall be performed in accordance with ISO/IEC 17065 *Conformity assessment – Requirements for bodies certifying products, processes and services*.

Through the communication of verifiable and accurate information on environmental aspects of products, Green Product Mark aims to encourage the demand for and supply of those products that cause less stress on the environment, thereby stimulating the potential for market-driven continuous environmental improvement.

Green Product Mark certification scheme is owned by TÜV Rheinland, a leading international technical service provider who have been developing solutions to ensure the safety, quality and economic efficiency of the interaction between man, technology and the environment.

This document is intended to convey clear and unambiguous requirements to be fulfilled for products to get awarded with Green Product Mark.

1 Scope

This document lays out prerequisites, product environmental criteria and product function characteristics that Biobased Plastic Toys (non-electrical)* and corresponding packaging shall comply with, in order to get awarded with Green Product Mark.

All products which demonstrate compliance with relevant prerequisites, product environmental criteria and product function characteristics set forth in this document are entitled to be awarded Green Product Mark.

**For toy sets containing materials other than 'biobased plastics', corresponding requirements for those materials, as listed under this document, have to be fulfilled. This document is only applicable for toys having plastics as the main material (i.e. $\geq 50\%$ total product weight).*

Note: Lacquer, fabric made of artificial fibres and glue is not seen as a plastic material in the meaning of this document.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[4.1 Social compliance]

- SA 8000 Social Accountability

[4.2 Toy safety & 5.1 Environmental chemical concerns]

- Directive 2009/48/EC on safety of toys, and its amendments (TSD)
- European Standards of the EN 71 Series, safety requirements for toys
- REACH Regulation (EC) No. 1907/2006, and its amendments
- POP Regulation (EU) 2019/1021 on Persistent Organic Pollutants (recast)
- German Ordinance on the Prohibition of Chemicals (ChemVerbotsV - Chemikalienverbotsverordnung)
- Packaging and packaging waste Directive 94/62/EC
- Commission Decision (EU) 2019/70 establishing the EU Ecolabel criteria for graphic paper, tissue paper and tissue products
- German Recommendation XXI of the federal institute for risk assessment (BfR) "Consumer goods based on natural and synthetic rubber"
- AfPS GS 2019:01 on polycyclic aromatic hydrocarbons

[5.2 Sustainable use of resources and 5.3 Evaluation of product climate resilience]

- ASTM D 6866, ISO 16620, EN 16640, Radio Carbon-Analysis – biobased content
- DIN 18128, EN 13039, EN ISO 3451-1 - Organic content based on ignition loss
- ISO 14040, Environmental management -- Life cycle assessment – Principles and framework

- ISO 14044, Environmental management – Life cycle assessment – Requirements and guidelines
- Product Environmental Footprint (PEF) Guide
- ISO 14067, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification
- ISO 14021, Environmental labels and declarations–Self-declared environmental claims (Type II environmental labelling)

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

3.1 Green Product Mark

A voluntary environmental labelling program owned by TÜV Rheinland to indicate the overall environmental preferability of a product within a particular product category based on life cycle considerations and contribute to a reduction in the environmental impacts associated with products.

3.2 Prerequisites

Preconditions that a product shall comply with to be awarded Green Product Mark, which in principle consist of two pillars: legislative/regulatory requirements that the product shall meet in order to access target market; social compliance requirements prescribed to the site where the product has been manufactured.

3.3 Product environmental criteria

Environmental requirements that the products shall meet in order to be awarded an environmental label. [SOURCE: ISO 14024: 1999, definition 3.4]

4 Prerequisites

4.1 Social compliance

The social compliance of brand owner, manufacturer and production site shall be maintained with all statutory and regulatory requirements for the jurisdiction in which the manufacturing operations are located.

Methodology for assessing and demonstrating compliance:

The Brand owner, manufacturer and the factory/third-party producer shall

- Fulfil the requirements of SMETA/ BSCI/ SSPA by providing a documented proof of SMETA/ BSCI/ SSPA audit report conducted at production facility of Green Mark certified products; or
- Fulfil the requirements of SA8000 by providing a valid SA8000 certificate issued by a SAAS-accredited certification body or a COC audit report issued by TÜV Rheinland; or
- Fulfil the requirements of RBA by providing a documented proof of RBA VAP audit report conducted at production facilities of Green Mark certified products; or
- Fulfil the requirements of ICTI by providing a valid ICTI certificate issued by a ICTI accredited audit firm; or
- Submit a report developed according to the GRI Sustainability Reporting Guidelines or GRI Sustainability Reporting Standards.

The documented proof/report shall be maximum of 12 months old at the time of application for Green Product Mark certification.

Annual surveillance (for 4.1):

Document review – To review

- 1) The submitted / re-submitted audit reports or certificates, to ensure they are not issued older than 12 months;
- 2) The CAP of the audit reports, to ensure the non-conformances will be continuously improved, at the time of the surveillance process.

4.2 Product safety

Compliance shall be maintained with safety requirements set forth in statutory regulations for the jurisdiction in which Green Product Mark certified products will be sold.

Methodology for assessing and demonstrating compliance:

The applicant shall provide test reports issued by TÜV Rheinland. Testing reports are deemed valid for a period of 1 year*. Reports should be issued for the complete finished product. Component reports could partly accepted, if manufacturer can guarantee a standard level according to internal quality management system

Reports of other test institutes may be accepted if the institute is accredited for the relevant parameters and issue date does not exceed one year (

*prior to certificate issuance

Further, any chemical treatments with biocides/plant protection products, flame retardants, vulcanization accelerators, impregnating agents etc. must be notified to the TÜV and the relevant substances named and/or the safety data sheets of the treatment agents provided.

Nevertheless, supplementary chemical spot test on finished product (e.g. PAHs) is necessary. Furthermore, some chemical parameters have to be tested additional on the finished product (e.g. resistance to saliva and sweat). For testing purposes, a sufficient number of ready-for-sale test samples in original sales packaging must therefore be made available.

Compliance shall be maintained base on the requirements of the European Union (esp. laws, regulations, directives, and standards) applicable for the product. Other safety-relevant standards that represent the current state of the art must also be taken into account. A list of requirements to be considered is given in para 5.1. Further product specific requirements e.g. for sledges, food contact materials etc. have to be fulfilled additionally. Country or region specific requirements are not part of this catalogue. Indeed, all relevant legal demands of the sales countries have to be fulfilled. Responsibility for adherence is on the side of the manufacturer/market placer.

Annual surveillance (for 4.2):

License holder has to determine Option I or II during the initial stage of the project. In case any changes is necessary, client has to inform TÜV Rheinland at least 1 month before the due date (i.e. 1-year after the initial certificate issue date).

Option I – Arrange testing on drawn samples from mass-production (warehouse/ production-line), for 2nd and 3rd surveillance year

- All certified models must be drawn and tested.

(Reminder: To avoid keep the surveillance process pending for long due to different production schedule of different models, clients are reminded only to group models with foreseeable same production schedule into 1 cert.)

- There must be at least 100 pcs available of each model for sample drawing. Final number of pieces to be drawn for testing depends on product nature; however, this would not be more than the sample size for initial testing. Client should approach TÜV Rheinland actively when they know when the mass production would start in next calendar year.
- Testing content:
 - (i) Full test would be arranged for Toy Safety Directive Annex II Section III appendix C, harmonized standards, REACH Regulation-Ni release, Azo dye, PAHs, Phthalates, etc.
 - (ii) Spot test (30% initial year testing, in terms of testing groups) would be arranged for rest test parameters.

Note: In case of any non-conformance, client has to submit their improvement plan, and TÜV Rheinland would arrange another sample drawn and all relevant testing, for the critical model(s), with additional charges.

Remark: Related testing is served as regular spot check only; clients bear responsibility to ensure the compliance for all the certified products.

Option II – Factory audit (inspection), for 2nd and 3rd surveillance year

- Taking reference to the factory inspection requirement for GS.
- Requirement of 'having at least 1 certified model in production line during follow-up inspection' can be exempted. Similar products should be available on production-line.

5 Product requirements

5.1 Protection of human and environmental health

Remark: Chemicals that are particularly harmful to the environment (especially those listed in the POP REG or in the Candidate List of substances of very high concern for Authorisation acc. to REACH) have in some cases been subject to stricter requirements-

5.1.1 Requirements according to EN 71:

Parameter	Method	Application of the test parameter	Limit value
EN 71-1	EN 71-1	all articles	EN 71-1
EN 71-2	EN 71-2	all relevant articles	EN 71-2
EN 71-3	EN 71-3	toys, toy components in accordance with EN 71-3	EN 71-3 (valid limit value at the time of placing on the market)
EN 71-4	EN 71-4	experimental kits	EN 71-4
EN 71-5	EN 71-5	chemical toys except for experimental kits	EN 71-5
EN 71-7	EN 71-7	finger paints	EN 71-7
EN 71-8	EN 71-8	activity toys	EN 71-8
EN 71-9	EN 71-10 + EN 71-11	all relevant articles	EN 71-9
EN 71-12	EN 71-12	N-nitrosamines and N-nitrosatable substances in finger paints and elastomers	EN 71-12 (deviating limits acc. to EN 71-12:2016 and German BedGgstV)
EN 71-13	EN 71-13	board games for the olfaction, cosmetic cases and games for the degustation in accordance with the standard	EN 71-13
EN 71-14	EN 71 -14	trampolines for private use in accordance with the definition in the standard	EN 71 -14

5.1.2 Additional chemical, physico-chemical and microbiological Requirements

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Heavy metals (general toy materials) <ul style="list-style-type: none"> • Total Lead • Total Cadmium • Total Mercury 	Decomposition; ICP-OES or ICP-MS	<ul style="list-style-type: none"> - Plastics & Rubber materials - Lacquer and coatings (e.g. on textile, paper) - Metals and alloys - Colours and other mixtures 	x	x	< 0.01 % (REACH Annex XVII as well as environment specific legislation like DIR 94/62/EC and RoHS)
Heavy metals (natural materials) <ul style="list-style-type: none"> • Total Mercury • Total Arsenic 	Decomposition; ICP-OES or ICP-MS	Natural materials like cork, bast, wool, cotton, leather, latex etc.	x	x	< 10 mg/kg each (REACH Annex XVII entry 18 + 19 prohibition of use)
Heavy metals (packaging): <ul style="list-style-type: none"> • Lead • Cadmium • Mercury • Chromium VI 	Decomposition; ICP-OES or ICP-MS	Packaging components (all materials)	x	x	Sum ≤ 100 ppm

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Extractable Metals (Sweat) in accordance with REACH Annex XVII Entry 72 <ul style="list-style-type: none"> • Cadmium • Arsenic • Lead and their compounds • Chromium VI 	Elements: EN 16711-2:2015 Chromium VI: EN ISO 17075	Textile materials with long-term contact	x	x	each < 1 mg/kg (expressed as metal that can be extracted from the material)
Organotin Compounds <ul style="list-style-type: none"> • Dibutyltin (DPT) • Dioctyltin (DOT) • Tricyclohexyltin (TcyT) • Triphenyltin (TPht) • Tributyltin (TBT) 	ISO TS 16179: Extraction, Derivatization, GC-MS.	<ul style="list-style-type: none"> - Plastics - Lacquer and Coating - Textiles (test with embroidery, dyed textile --> separate the colours if there is 1cm² continuous surface) - Natural material (e.g. cork, bast, wool, cotton, leather, latex etc.) Not for small quantities < 50 mg <i>Note: finger paints, modelling clay, paper and cardboard are evaluated acc. to DIR 2009/48/EC (test acc. to EN 71-3)</i>	x	x	< 100 mg/kg each (following REACH Annex XVII entry 20)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Adsorbable organic halogens (AOX)	Extraction by steam Distillation, Analysis acc. to DIN EN ISO 9562	Paper Cardboard Tissue	x	x	< 30 mg/kg
Pesticides: <ul style="list-style-type: none"> • DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane) • Chlordane • Hexachlorocyclohexanes, including lindane • Dieldrin • Endrin • Heptachlor • Endosulfan • Hexachlorobenzene • Chlordecone • Aldrin • Polychlorinated Biphenyls (PCB) • Mirex • Toxaphene 	Extraction, GC-ECD	- wood (solid or composited) - Natural material (e.g. cork, bast, wool, cotton, leather, latex etc.) Spot check only!	x	x	POP

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Chlorophenols: <ul style="list-style-type: none"> • Pentachlorophenol (PCP), • Tetrachlorophenol (TCP), • Trichlorophenol (TriCP) 	DIN EN ISO 17070: extraction; GC-MS	<ul style="list-style-type: none"> - Natural material (e.g. wood, cork, bast, wool, cotton, latex etc.) - Paper, including paper sticker (even with lamination), coated / printed paper, - Paint brush / bristles - Leather - Varnish on wood Spot check only!	x	x	≤ 5 mg/kg each for <ul style="list-style-type: none"> - PCP - sum of TCP - sum of TriCP (following POP)
Alkylphenols (AP) and Alkylphenoethoxylates (APEO) <ul style="list-style-type: none"> • 4-heptylphenol, branched and linear (4-HPbl) • 4-octylphenol, branched and linear (OP) • 4-Nonylphenol, branched and linear (NP) • Octylphenoethoxylates (OPEO) • Nonylphenoethoxylates (NPEO) 	Extraction; GC-MS resp. HPLC-MS	All textile products: incl. fabrics, knitted fabrics, yarn and fibres	x	x	< 0.01% each (REACH Annex XVII entry 46a + SVHC)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Aniline (primary amine resp. generated by reductive cleavage of azo dyes)	Textiles DIN EN ISO 14362-1:2017 Leather: § 64 LFGB, B 82.02-3 / DIN EN ISO 17234-1:2015 Finger Paints: DIN EN 71-7 Other materials: following DIN EN ISO 14362-1:2017 without extraction for disperse dyes	<ul style="list-style-type: none"> - Textiles and leather - Coloured paper and cardboard - Colour coatings - Coloured, accessible mixtures e.g. paints, inks, leads of coloured crayons, wax crayons, chalk, modelling clay Not for plastics, ceramics, metals, glass, or white/undyed textile materials.	x	Leather and textiles Coloured accessible mixtures	TSD If applicable: EN 71-7 EN 71-9
Arnold's base Michler's ketone	Extraction; HPLC-DAD	Coloured accessible mixtures (e.g. paints, inks, leads of coloured crayons, wax crayons, chalk, modelling clay)	x	x	< 0.1 % (TSD)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Azo dyes (determined by products created after reductive cleavage - detection of at least one of 22 carcinogenic amines listed in REACH Annex XVII Appendix 8)	Textiles DIN EN ISO 14362-1:2017 DIN EN ISO 14362-3:2017 Leather: § 64 LFGB, B 82.02-3 / DIN EN ISO 17234-1:2015 Paper/Tissue: following DIN EN ISO 14362-1/-3:2017	- Textiles and leather (REACH Annex XVII entry 43 & 72) - Paper/board and tissue (COM DEC 2019/70/EU)	x	x	≤ 30 mg/kg per amine (REACH as well as COM DEC 2019/70/EU)
Carcinogenic colourants see Annex 1	following DIN EN 71-10 + EN 71-11 § 64 LFGB, B 82.02-10 / DIN 54231	- textile materials and leather with longer skin contact - coloured mixtures (e.g. . paints, inks, leads of coloured crayons, wax crayons, chalk, modelling clay) Not for plastics, ceramics, metals, glass, or white/undyed textile materials	x	x	< 0.1 % each (TSD – CMR-substances) Textile/leather: Disperse Blue 1 Basic Red 9 Basic Violet 3 with ≥ 0.1 % of Michler's ketone < 50 mg/kg each (REACH entry 72)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Benzene	Headspace-GC-MS	<ul style="list-style-type: none"> - Mixtures (e.g. inks, colours, adhesives) - Textile materials and artificial leather with long-term skin contact showing distinct smell 	x	x	< 5 mg/kg (REACH Annex XVII Entry 72)
Chlorinated paraffins, <ul style="list-style-type: none"> • Short-chained chlorinated paraffins (SCCP) (Chlorinated alkanes) C10 – C13 • Medium-chain chlorinated paraffins (MCCP) Chlorinated alkanes) C14 – C17 	Extraktion; GC-MS/NCI DIN EN ISO 18219	<ul style="list-style-type: none"> - Leather and leather articles - PVC and other soft plastics (incl. synthetic rubber, silicone) - Foam elastomers (exclude PU foam and PE foam) 	x	x	≤ 0.1% each (SVHC)
Chlororganic Carriers <ul style="list-style-type: none"> • α, α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride • α, α,α-trichlorotoluene; benzotrighloride • α-chlorotoluene; benzyl chloride 	DIN EN 17137	Coloured textile materials with long-term skin contact	x	x	REACH Annex XVII entry 72 (where applicable)
Chromium VI – content Also to be considered: EN 71-3	§ 64 LFGB B 82.02-11	Leather and leather products	x	x	< 3 mg/kg (REACH Annex XVII entry 47)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Dimethylfumarate	Extraction; GC-MS	- Leather, leather products, - Drying packages	x	x	≤ 0.1 mg/kg (REACH Annex XVII entry 61)
Flame Retardants: <ul style="list-style-type: none"> • Hexabromocyclododecane (HBCDD) • Polybrominated Diphenylethers (PBDE) C₁ (Mono) - C₁₀ (Deca) • Polybrominated Biphenyls (PBB) C₁ (Mono) - C₁₀ (Deca): • 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1.6,9.02,13.05,10] octadeca-7,15-diene (DDC-CO) "Dechlorane Plus"TM 	Extraction; GC-MS	All materials for which flame retardants may be relevant (spot test) e.g. Textiles, leather, foam	x	x	HBCDD, PBDE, PBB, TRIS: < 0.01% each (following POP and REACH:Annex XVII entry 8&47 DDC-CO:< 0.01% (SVHC)
Formamide	Total content: Extraction; GC-MS Emission: Test chamber method see Annex 2	Accessible foamed plastics (including covered by textile), except polystyrene (PS)	x	only if intended to be placed into the mouth	Total content: ≤ 200 mg/ kg Emission: ≤ 20 µg/m ³ no later than 28 days from the start of the emission tests (TSD Appendix C)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Formaldehyde (articles) <i>for mixtures see "preservatives"</i>	derived timber products in toys for children < 3 years: flask method EN 717-3 with modification 24h/40°C (as used by German authorities) Textile: § 64 LFGB, B 82.02-1 / DIN EN ISO 14184-1 leather: DIN EN ISO 17226 Paper and cardboard: EN 71-9	<ul style="list-style-type: none"> - Derived timber products (no test of solid wood) - Textiles, leather, artificial leather & prints on those materials - Paper and cardboard (definition see EN 71 -1) 	x	x	Derived timber products: flask method EN 717-3: ≤ 110 mg/kg (EN 71-9) textiles and leather: Toys for children < 3 years : ≤ 30 mg/kg (TSD Appendix C & EN 71-9) Other textiles with long-term skin contact: < 75 mg/kg (REACH Annex XVII entry 72) Paper and cardboard: ≤ 30 mg/kg (TSD Appendix C & EN 71-9)
Formaldehyde emission (engineered woods and glued wood)	following DIN EN 717-1 test chamber method	<ul style="list-style-type: none"> - Derived timber materials (e.g. MDF, glulam, cork) sold as such - indoor furniture (double function) total surface > 50 cm² - Toys for children < 3 years with derived timber materials 	x	x	whole article: ≤ 0.1 ml/m ³ (ppm) (following the requirement of ChemVerbotsV for furniture) Where applicable: TSD Appendix C

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
GC summary analysis	HS-GC/MS + HS-GC/FID	Mixtures (e.g. paints, inks, leads of coloured crayons, wax crayons, chalk, modelling clay)	x	x	CMR substances < classification limit no classification as harmful to health or target organ toxic classification with EUH208 is acceptable <i>Exceptions for toys in the scope of EN 71-4 or EN 71-5</i>
2-Mercaptobenzothiazole (MBT)	DIN EN 1400	<ul style="list-style-type: none"> - Toys intended to be put in the mouth - Toys intended for children under 36 months of age - Balloons - Bottle teats - Soothers (dummies) - Teething rings Made of vulcanized rubber	x	x	$\leq 8 \text{ mg/kg}$ (BfR Rec. XXI-2)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Monomers (migration) <ul style="list-style-type: none"> • Bisphenol A • Phenol • Formaldehyde • Styrene • Acrylamide 	DIN EN 71-10 + DIN EN 71-11	Plastic materials (spot test)	x	Intended to be placed in the mouth	Bisphenol A ≤ 0.04 mg/l Phenol ≤ 5 mg/l Formaldehyde ≤ 5 mg/l Styrene A ≤ 0.75 mg/l Acrylamide ≤ 0.02 mg/l (TSD Appendix C + EN 71-9)
Nickel content	RFA-Screening „Steel“: Content of Chromium & Nickel If necessary, in addition nickel grinding test acc. to CEN/TR 12471 for quality testing of the surface	Metal parts that move during normal and intended use of the toy and may cause metal abrasion	x	x	Surface < 1 % nickel

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Nickel release	§ 64 LFGB, B 82.02-6 / DIN EN 1811 <u>and</u> § 64 LFGB, B 82.02-7 / DIN EN 12 472	Metallic surfaces (metal/alloy/galvanic coating) with longer skin contact. definition prolonged skin contact acc. to ECHA-guidance of 02.04.2014: a. at least 3 times skin contact of 10 minutes within 2 weeks or b. at least one skin contact of 30 minutes within 2 weeks	x	x	$\leq 0.5 \mu\text{g}/\text{cm}^2/\text{week}$ (following REACH Annex XVII entry 27)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
N-Nitrosamines and N-nitrosatable substances	EN 71 -12:2016 (migration: 4 hours) If necessary, in addition German BedGgstV (migration: 24 hours)	EN 71-12: - toys and toy components made of elastomers, which children may place into the mouth - finger paints German BedGgstV: - toys made of natural or synthetic rubber - toys for children ≤ 36 months, that are placed into the mouth as intended or foreseeably	x	elastomer materials, which are intended to be placed into the mouth finger paints	EN 71-12:2016 German BedGgstV (if applicable)
Organophosphates <ul style="list-style-type: none"> • Tris(2-chloroethyl)phosphate (TCEP) [CAS: 115-96-8] • Tris(2-chloroisopropyl)phosphate (TCPP) [CAS: 13674-84-5] • Tris(1,3-dichloroisopropyl)phosphate (TDCP) [CAS: 13674-87-8] 	Extraction; GC-MS	- Textiles, leather - Foamed plastics - Plastics, coatings of toys in the scope of TSD Appendix C (spot test only) (application for all materials, no matter if accessible or not)	x	x	TSD Appendix C: < 5 mg/kg each Other toy materials: < 0.1 % each (SVHC + CMR)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Perfluorinated Compounds <ul style="list-style-type: none"> • Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds • Perfluorooctane sulfonic acid and its derivatives (PFOS) • Linear and branched perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain ('C9-C14 PFCAs'), their salts and related substances • Perfluorobutane sulfonic acid (PFBS) and its salts • Perfluorohexane-1-sulphonic acid and its salts (PFHxS) 	DIN CEN/TS 15968 Extraction, GC-MS	Impregnated and special (including water- or grease-repellent) coated textiles, leather, paper/cardboard	x	x	PFOA & PFOS: Legal limit acc. to REG (EU) 2019/1021 PFBS & PFHxS: < 0,1 % (SVHC)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Phthalates REACH-REG (EC) no. 1907/2006 Annex XVII Entry 51+52+72 incl. those that are toxic to reproduction in accordance with CLP-REG (EC) no. 1272/2008/	extraction; GC-MS	<ul style="list-style-type: none"> - Plastics - paint coats - Varnishes, coatings on textiles - Cardboard - Bonded materials with glue (e.g. stickers, glued paper, MDF, plywood, cork) - Mixtures (e.g. paints, inks, leads of coloured crayons, wax crayons, chalk, modelling clay) 	x	x	< 0.1% for the sum of DEHP, DBP, BBP, DIBP For toys that may be placed into the mouth: ≤ 0.1% for the sum of DINP, DIDP, DNOP Accessible materials: ≤ 0.1% each of phthalate listed as SVHCs or classified as CMR substances
Polycyclic Aromatic Hydrocarbons (PAH) <ul style="list-style-type: none"> • Benzo[a]pyrene (BaP) • Benzo[e]pyrene (BeP) • Benzo[a]anthracene (BaA) • Chrysen (CHR) • Benzo[b]fluoranthene (BbFA) • Benzo[j]fluoranthene (BjFA) • Benzo[k]fluoranthene (BkFA) • Dibenzo[a,h]anthracene (DBAhA) 	AfPS GS 2019:01 PAH: Extraction with toluene in ultrasonic-bath; GC/MS	<ul style="list-style-type: none"> - Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity - Clothing, footwear or related accessories which come into contact with human skin to an extent similar to clothing 	x	x	REACH Annex XVII entry 50 + 72 <ul style="list-style-type: none"> - rubber / plastic materials including as fibres made of those materials and artificial polymers in glue or lacquer of toys and childcare articles: ≤ 0.5 mg/kg each - rubber / plastic materials of other articles: ≤ 1 mg/kg each textiles: < 1 mg/kg each

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Preservatives Also to be considered: EN 71-9 (as applicable) EN 71-7 (requirements for finger paints) if appropriate	MIT, CIT, BIT, MBIT, OIT, DCOIT, phenol: extraction, HPLC-MS Formaldehyde: - EN 71-10 (free formaldehyde after post-column derivatisation) - EDQM-method (TSD Appendix C)	- Aqueous based mixtures - Modelling clay - play-dough - Imitation tattoos with adhesive - leather (EN 71-9)	x	x	No classification of the mixture as skin sensitizing Where applicable: TSD Appendix C EN 71-9
Siloxanes: <ul style="list-style-type: none"> • Octamethylcyclotetrasiloxane (D4) • Decamethylcyclopentasiloxane (D5) • Dodecamethylcyclohexasiloxane (D6) 	Extraction, GC-MS	Silicones, silicone rubber and other silicone-based materials (e.g. finishes for textiles and leather, polishes, waxes, lubricants, sealants)	x	x	< 0.1% each (SVHC)
Soluble Proteins (Latex)	Lowry - 59 th announcement of German Federal Health Gazette „Bundesgesundheitsblatt“ 1999,42:814 - ASTM D5712-15	Made of natural rubber (latex) - Articles intended or foreseeably placed into te mouth - Articles in contact with the skin	x	x	bottle teats and soothers not detachable (< 20 mg/kg) articles in contact with the skin ≤ 200 mg/kg Declaration with correct warning hint for articles made with latex

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Solvents / Residuals (Textiles) <ul style="list-style-type: none"> • N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP) • N,N-dimethylacetamide (DMAC) • Dimethyl formamide (DMF) 	CEN ISO/TS 16189:2013	Textile materials and artificial leather with long-term skin contact showing distinct smell	x	x	each < 3000 mg/kg (REACH Annex XVII entry 72)
Specific migrations in accordance with the Federal Code for food stuff, commodities and feeding stuff (LFGB)	various (depending on test parameter) Migration acc. to Recommendation XLVII of the Federal Institute for Risk Assessment (BfR)	- Toys with foreseeable food contact in role playing-game - Articles with intended and declared teether function - Materials that are intended to be placed into the mouth for prolonged time	x	x	compliance with the specific migration limit values for materials with food contact
UV-absorber <ul style="list-style-type: none"> • 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) • 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) • 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) • 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) 	Extraction, GC-MS	Plastics and rubber, paints and other coatings, sealants, adhesives in products intended for outdoor-use (relevant materials only)	x	x	< 0.1% each (SVHC)

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Quinoline	DIN 54231	Coloured textile materials with long-term skin contact	x	x	< 50 mg/kg (REACH Annex XVII Entry 72)
Colour release of consumer goods (Resistance to saliva and sweat)	§ 64 LFGB B 82.92-3 § 64 LFGB B 82.02-13 (DIN 53160 section 1 and section 2)	All accessible materials of articles except uncoloured materials No materials intended to leave a trace (e.g. crayons)	x	materials that are intended to be placed into the mouth; e.g. mouthpieces textiles with prolonged skin contact	grade 5
Odour	simple odour test during unpacking; in case of abnormalities: see Annex 3	Total product	x	x	No conspicuous odour during unpacking; Odour test acc. to Annex 3: ≤ level 3 (significant, not inconvenient)
Respiratory toxic liquids classified acc. to CLP-REG (EC) no. 1272/2008 as Asp. Tox. 1; H304	evaluation of submitted MSDS (conform to REACH) : kinematic viscosity at 40°C > 20.5 mm ² /s)	Hydrocarbons, e.g. crude oil distillation products, chlorinated hydrocarbons, turpentine, pine oil Liquid mixtures containing ≥ 10% of a substance classified as respiratory toxic	x	x	No use of liquids classified as aspiration toxic

Parameter	Method	Present application of the test parameters	Relevant for		Requirement
			toys < 36 months	toys ≥ 36 months	
Microbiological test	following the European Pharmacopoeia (Pharm. Europ.)	<ul style="list-style-type: none"> - Aqueous mixtures (e.g.: soap bubble fluid, ink, finger paint) - Play sand (including mineral/natural sand and magic/kinetic sand) - Biological materials: e.g. paint brushes made of natural bristles or hair seeds, feathers, etc. - Materials susceptible for mould (e.g. leather, textile, cardboard) with suspicious, typical smell 	x	x	<p>Aqueous materials & magic sand: Limit values acc. to NB Toys 2016/014</p> <p>Natural sand: Limit values following NB Toys 2016/014, except: total germs content < 10⁵ cfu/g</p> <p>Paint brushes: total germs content < 10⁶ cfu/g fecal and hygiene indicators < 10 cfu/g</p> <p>Other natural materials: exposure-dependent evaluation</p> <p>Materials with mould odour: test of mould and yeast only; exposure-dependent evaluation</p>

5.2 Sustainable use of resources

5.2.1 Products

5.2.1.1 *Biobased plastics*

- a) Plastic components having a mass > 20% per finished product weight need to be 'biobased' plastics.
- b) Each 'biobased' plastics component shall contain >85% biobased carbon content
- c) Total weight of biobased plastics [fulfilling A) above] shall share \geq 50% finished product weight.

5.2.1.2 *Other materials*

(i) Paper/ paperboard/ Wood

Materials are sourcing from Responsible Management Forest (FSC), that,

- The manufacturer / supplier are authorized to use the FSC trademarks for the concerned materials.
- The FSC trademarks shall be applied in conformity with FSC official requirements.

(ii) Textiles / Fibres

Natural materials (e.g. cotton, silk, wool) should be organic quality according to Council Regulation (EC) No 834/2007 and Commission Regulation (EC) No 889/2008.

Verification requirements:

Biobased plastics

- a) Test reports and valid certificates to demonstrate the biobased carbon content, based on ASTM D6866, ISO 16620, EN 16640; and organic content based on ignition loss according to EN 13039, DIN 18128, EN ISO 3451-1 or other equivalent standards.
Alternatively, sustainability certificates for bio-based materials like ISCC PLUS and REDcert² may be recognized under certain circumstances (additional documents need to be supplied and checked). In any case, a thorough review of the documents will be necessary.
- b) Bill of materials of the whole toy set, including individual weight and source of each component.

FSC certified materials

- a) The latest FSC audit report shall be available.
- b) The material purchase records and production records (with exception trader) shall be available.
- c) The FSC trademark approval letter from relevant CB and usage picture shall be available.

5.2.2 Packaging (not part of consumer products)

- a) FSC 100%/ Mixed-certified materials.
- b) Halogenated organic plastics e.g. PVC, or metallic coatings shall be prohibited. Plastic materials should be avoid if it is technically possible.

Verification requirements:

- a) Valid FSC certificate(s) should be submitted.
- b) Bill-of-Material of all packaging components.

Annual surveillance (for 5.2): Document review

5.3 Evaluation of product climate resilience

The producer shall quantify/assess the life cycle carbon emissions of products and corresponding packaging using life cycle assessment techniques, i.e. by describing the inputs and their associated emissions attributed to the delivery of a specified amount of the product functional unit.

Methodology for assessing and demonstrating compliance:

Option 1: The applicant shall provide a report of Product Carbon Footprint (PCF) based on ISO 14067. The report shall be verified by an independent third-party.

Option 2: The applicant shall provide a report of Life Cycle Assessment (LCA) using ISO 14040 and ISO 14044. The report shall at least include the environmental impact category Global Warming Potential and shall be reviewed by an independent third-party.

The critical review process shall ensure that (source: ISO 14044:2006):

- the methods used to carry out the PCF or LCA are consistent with this international standard,
- the methods used to carry out the PCF or LCA are scientifically and technically valid,
- the data used are appropriate and reasonable in relation to the goal of the study,
- the interpretations reflect the limitations identified and the goal of the study, and
- the study report is transparent and consistent.

The minimum necessary score to qualify as a reviewer or a review team is six points, including at least one point for each of the three mandatory criteria (i.e. verification and audit practice, PCF or LCA methodology and practice, and knowledge of technologies or other activities relevant to the study).

Scoring system for eligible reviewers/review teams

(source: Product Environmental Footprint Guide)

Topic		Criteria	Score (points)				
			0	1	2	3	4
Mandatory criteria	Review, verification and audit practice	Years of experience	0 – 2	3 – 4	5 – 8	9 – 14	> 14
		Number of reviews	0 – 2	3 – 5	6 – 15	16 – 30	> 30
	PCF or LCA Methodology and practice	Years of Experience	0 – 2	3 – 4	5 – 8	9 – 14	> 14
		Experiences of participation in PCF or LCA work	0 – 4	5 – 8	9 – 15	16 – 30	> 30
	Technologies or other activities relevant to the study	Years of experience in private sector	0 – 2 (within the past 10 years)	3 – 5 (within the past 10 years)	6 – 10 (within the past 20 years)	11 – 20	> 20

Topic		Criteria	Score (points)				
			0	1	2	3	4
		Years of experience in public sector	0 – 2 (within the past 10 years)	3 – 5 (within the past 10 years)	6 – 10 (within the past 20 years)	11 – 20	> 20
Other	Review, verification and audit practice	Optional scores relating to audit	<ul style="list-style-type: none"> · 2 points: Accreditation as third party reviewer for at least one PCF or EPD Scheme, ISO 14001, or other EMS · 1 point: Attended courses on environmental audits (at least 40 hours) · 1 point: Chair of at least one review panel (for PCF or LCA studies or other environmental applications) · 1 point: Qualified trainer in environmental audit course. 				

Annual surveillance (for 5.3):

Document review

6 Product function characteristics

6.1 Information for User

Information that the product has been awarded the Green Product Mark, including a summary of the major features for award of the Green Product Mark (e.g. *Plastics being used in the product, i.e. ___% weight of the product/Carbon, are biobased materials*) to be put right next to the Green Product mark, and a link to www.tuv.com/world/en/green-product-mark.html or to the Certipedia platform.

6.2 Product characteristics:

Product functions, dimensions and weight would be recorded.

Annex 1: Carcinogenic dyes

Dyestuff	Colour Index	CAS-No.
Acid Red 26	C.I. 16 150	3761-53-3
Basic Red 9	C.I. 42 500	569-61-9
Basic Violet 3 with ≥ 0.1 % of Michler's ketone		548-62-9
Basic Violet 14	C.I. 42 510	632-99-5
Direct Black 38	C.I. 30 235	1937-37-7
Direct Blue 6	C.I. 22 610	2602-46-2
Direct Red 28	C.I. 22 120	573-58-0
Disperse Blue 1	C.I. 64 500	2475-45-8
Disperse Orange 11	C.I. 60 700	<u>82-28-0</u>
Disperse Yellow 3	C.I. 11 855	2832-40-8

Structure-identical compounds, which only differ in pH value from the above dyes, are included in the specifications of this 2 PfG S in an analogous manner.

Annex 2: Phthalates

The following substances are regarded:

Name	CAS-No.	Reason*
Diethylhexyl phthalate (DEHP)	117-81-7	REACH Annex XVII, CMR, SVHC
Dibutyl phthalate (DBP)	84-74-2	REACH Annex XVII, CMR, SVHC
Benzylbutyl phthalate (BBP)	85-68-7	REACH Annex XVII, CMR, SVHC
Di-n-octyl phthalate (DnOP)	117-84-0	REACH Annex XVII
Diisononyl phthalate (DiNP)	68515-48-0; 28553-12-0	REACH Annex XVII
Diisodecyl phthalate (DiDP)	68515-49-1; 26761-40-0	REACH Annex XVII
Diisobutyl phthalate (DiBP)	84-69-5	REACH Annex XVII, CMR, SVHC
Di(methoxyethyl) phthalate (DMEP)	117-82-8	REACH Appendix 12, CMR, SVHC
Dipentyl phthalate (DnPP)	131-18-0	REACH Appendix 12, CMR, SVHC
n-Pentyl-isopentyl phthalate (PiPP)	776297-69-9	CMR, SVHC
Diisopentyl phthalate (DiPP)	605-50-5	REACH Appendix 12, CMR, SVHC
Di-n-hexyl phthalate (DnHP)	84-75-3	REACH Appendix 12, CMR, SVHC
Di-i-hexyl phthalate (DnHP)	71850-09-4	CMR
Dicyclohexyl phthalate (DCHP)	84-61-7	CMR, SVHC
Di-i-octyl phthalate (DiOP)	27554-26-3	CMR

1,2-Benzene dicarboxylic acid, dipentylester, branched and linear	84777-06-0	CMR, SVHC
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	CMR, SVHC
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	REACH Appendix 12, CMR, SVHC
1,2-Benzenedicarboxylic acid, di-C7-11 branched and linear alkyl ester (DHNUP)	68515-42-4	CMR, SVHC
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl, hexyl and octyl diesters; with ≥ 0.3% of dihexyl phthalate	68515-51-5 68648-93-1 71850-09-4	CMR, SVHC

*Reason for inclusion:

REACH Annex XVII: Substance is prohibited for toys acc. to REG (EC) no. 1907/2006 (REACH) Annex XVII entry 51 or 52

REACH Appendix 12: Substance is prohibited for textiles with long-term skin contact acc. to REG (EC) no. 1907/2006 (REACH) Annex XVII entry 72

CMR: Substance has carcinogenic, mutagenic or reprotoxic properties

SVHC: Substance has been included in the candidate list for authorization acc. to REG (EC) no. 1907/2006 (REACH) Annex XVI

Annex 3: Odour

Assessment according to a 5-step scale:

1 = no odour

2 = weak odour

3 = significant, not inconvenient odour

4 = inconvenient odour

5 = insufferable odour