

## 1 Requirements

The fundamentals as well as the corresponding test requirements are listed below. The currently valid version is to be used for evaluation. Depending on the type of toy, compliance with the relevant requirements must be demonstrated.

### 1.1 General:

Test criterion	Limit values	Note
<b>Act on making products available on the market</b> (Product Safety Act - ProdSG)		For the requirements that may not be covered by the EU directives that apply to toys  <u>Requirement to/for:</u> - Instruction manual - GS mark certification
<b>Applicable EC directives</b> as well as their amendments, e.g: Directive 2009/48/EC concerning the safety of toys (Spz-RL - Toy Safety Directive)		Evaluation according to the relevant safety standards, in particular harmonised safety standards and, where appropriate, applicable non-harmonised standards and draft standards
<b>Relevant safety standards</b> e.g.: Series of standards EN 71, EN 62115, ...		<u>Requirement for:</u> - Product, Instruction manual - Labelling / Inscriptions
<b>Relevant laws, regulations (as amended)</b> European laws, e.g. Regulation 1907/2006/EC (REACH) National German laws, e.g: Regulation concerning the safety of toys (2. ProdSV - 2nd Product Safety Act), Banned Chemicals Ordinance (ChemVerbotsV) Foodstuffs, Consumer Goods and Feedstuffs Code (LFGB) Consumer Goods Ordinance (BedGgstV)		<u>Requirement for:</u> - Product - Labelling
<b>EMC</b> EMC Directive 2014/30/EU „Electromagnetic compatibility“		<u>Requirement for:</u> - Product - Electric toy
<b>EN 62115</b> Electric toys - Safety		Addendum: DIN EN 62115 does not provide for any fuse elements for low power circuits (9.8.1 / 9.8.2). A TÜV certificate is only issued if a suitable fuse is in place
<b>XXI. Recommendation from the Federal Institute of Risk Assessment (BfR, Germany)</b>		Consumer goods based on natural and synthetic rubber
<b>XLVII. Recommendation from the Federal Institute of Risk Assessment (BfR, Germany)</b>		Toys made of plastics and other polymers as well as of paper, cardboard and paperboard
<b>EU Directive No. 2006/66/EC</b> „Batteries and accumulators“		In the case of batteries and accumulators
<b>Directive 2011/65/EC RoHS</b>		In the case of electric or electronic toys (all devices with an electric function)
<b>Regulation 850/2004/EC</b> on persistent organic pollutants (POPs)		All materials
<b>Decisions of the EEG 2 and WG 2.2 „Toys“ and the Notified Bodies-Toys (NB-Toys) Group</b>		where applicable
<b>Performance properties</b> Manufacturing quality Handling Functionality (product properties guaranteed by the manufacturer)	<u>Evaluation:</u> min. Satisfactory	only applicable for the certification mark „LGA Tested Quality“  <u>Requirement for:</u> - Product

Test criterion	Limit values	Note
REACH - Regulation No. 1907/2006, SVHC substances as per Annex XIV current list of candidates at the respective time		Information regarding the use of SVHC substances according to REACH - Regulation No. 1907/2006, insofar as they are present in the product or the packaging material above the limit value of 0.1%. (refer to point 4)
ISO 11540	ISO 11540	Closing caps for writing and drawing instruments for children up to 14 years of age that are placed on the market as toys
Directive 2014/53/EC (RED)		For electric toys with a wireless system (may also include infrared remote controls depending on the frequency range)
EN 62133 Safety requirements for portable accumulators and batteries  Charging process (USB charging plug): EN 62368 Where applicable, replaced by EN 60335 after updating (reference is made in EN 62115)		In the case of lithium polymer accumulators
Directive 1994/62/EC (heavy metals in packaging)		Sales packaging and containers
Suitable testing for materials that come into contact with food, e.g.: Regulation 1935/2004/EC on materials and articles that are intended to come into contact with food Regulation 10/2011/EU on materials and articles made of plastic that are intended to come into contact with food		Materials that are intended / foreseeable to come into contact with food (especially toys with predictable food contact during role playing games) Test parameters are determined by the Consumer Goods and Feedstuffs Code (LFGB) team
Regulation 1223/2009/EC on cosmetic products		Cosmetic toys
DIN CEN ISO/TR 8124 - 8		Guideline on age classification
DIN EN 14682		Cords and drawstrings on role playing costumes for children that are put on the market as toys
DIN EN 12586		Dummy holders that have playing elements are additionally tested according to the requirements for toys.
Decisions of the EEG 2 and WG 2.2 „Toys“ and the Notified Bodies-Toys (NB-Toys) Group e.g.: NB Toys 2016/014 “EC type approval protocol No. 2: Microbiological safety of toys containing aqueous media		where applicable

EN 71-3 (limit value valid at the time of introduction on the market) or Attachment 3 (in each case the lowest value)

## 1.2 Requirements pursuant to EN 71:

Parameters	Method	Application of the test parameter	Application of the test parameter		Limit value
			Toy < 36 months	Toy ≥ 36 months	
EN 71-1 (EN 71-1:2014+A1:2018)	EN 71-1	all items	x	x	EN 71-1
EN 71-2 (EN 71-2:2011+A1:2014)	EN 71-2	all relevant items	x	x	EN 71-2

Parameters	Method	Application of the test parameter		Limit value	
		Toy < 36 months	Toy ≥ 36 months		
EN 71-3 (EN 71-3:2013+A3:2018)	EN 71-3	Toys, toy components pursuant to EN 71-3	x	x	EN 71-3 (limit value valid at the time of introduction on the market) or Attachment 3 (in each case the lowest value)
EN 71-4 (EN 71-4:2013)	EN 71-4	Experimentation kits		x	EN 71-4
EN 71-5 (EN 71-5:2015)	EN 71-5	Chemical toys with the exception of experimentation kits, adhesive for model construction kits		x	EN 71-5
EN 71-7 (EN 71-7:2014+A2:2018)	EN 71-7	Finger paints, water effects	x	x	EN 71-7
EN 71-8 (EN 71-8:2018)	EN 71-8	Activity toys	x	x	EN 71-8
EN 71-9 (EN 71-9:2005+A1:2007)	EN 71-9-11	all relevant items	x	x	EN 71-9
EN 71-12 (EN 71-12:2016)	EN 71-12	N-nitrosamines and N-nitrosatable substances in balloons, finger paints and elastomers	x	x	EN 71-12 (for deviating limit values see 5.3 Nitrosamines)
EN 71-13 (EN 71-13:2014)	EN 71-13	Olfactory board games, cosmetic kits and gustative games according to the standard	x	x	EN 71-13
EN 71-14 (EN 71-14:2014+A1:2017)	EN 71-14	Trampolines for private use as defined by the standard	x	x	EN 71-14

### 1.3 Additional chemical and microbiological requirements:

Parameters	current application of the test parameters	Limit value		GS mark relevant
		Toy < 36 months	Toy ≥ 36 months	
Azo dyes may not be used (through reduction formation of at least one of the 22 carcinogenic amines listed in Attachment 8 Appendix XVII of Regulation 1907/2006/EC (REACH))	Yes, for all materials (e.g.: inks, paints, colour coatings, textile materials, dyed paper and cardboard) Not in plastics, ceramics, metals, glass or white/undyed textile materials Reduced quantities < 50 mg in colour coatings are not taken into account. (complies with PAH regulation)	x	Textiles and leather dyed, accessible mixtures	≤ 30 mg/kg per amine  Leather, textiles  in the case of toys for children < 36 months: colour coatings, dyed paper and cardboard ≤ 30 mg/kg per amine  Mixtures < 0.1% (m/m) per amine

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<p><b>Aniline may not be used as primary amine or as azo dye (if aniline is formed through reduction)</b></p> <p>Also to be observed: EN 71-7 + EN 71-9 Toy Safety Directive Appendix II Attachment C will introduce a new limit value</p>	<p>Yes, for all materials (e.g.: inks, paints, colour coatings, textile materials, dyed paper and cardboard Not in plastics, ceramics, metals, glass or white/undyed textile materials Reduced quantities &lt; 50 mg in colour coatings are not taken into account. (complies with PAH regulation)</p>	x	Textiles and leather dyed, accessible mixtures	≤ 30 mg/kg	<p>Toy Safety Directive (Spz-RL) &lt; 1% (carcinogenic) If applicable: EN 71-7 EN 71-9 Toy Safety Directive (Spz-RL) Attachment C</p>
<p><b>Allergenic dispersion dyes added Disperse Yellow 23 and Disperse Orange 149</b> refer to Attachment 5</p> <p>Also to be observed: EN 71-9</p>	<p>Textile materials and leather with prolonged skin contact Not in plastics, ceramics, metals, glass or white/undyed textiles, leather and dyed paper</p>	x	x	≤ 75 mg/kg (≤ 5 mg/l) per colouring agent	yes
<p><b>Carcinogenic colouring agents and rhodamine B</b> refer to Attachment 5</p> <p>Also to be observed: EN 71-9</p>		x	x	≤ 75 mg/kg (≤ 5 mg/l) per colouring agent	<p>Textiles, leather, paper/cardboard: ≤ 75 mg/kg (≤ 5 mg/l) per colouring agent  Dyed mixtures: &lt; 0.1% (m/m)</p>
<p><b>Arnold's base or Michler's ketone</b></p>	<p>Dyed mixtures (e.g.: inks, paints), especially blue and purple Colour shades</p>	x	x	≤ 75 mg/kg	<p>Toy Safety Directive (SPZ-RL) &lt; 0.1% (carcinogenic)</p>
<p><b>Liquid substances and mixtures toxic to aspiration</b> (classified according to the CLP Regulation 1272/2008/EC as Asp. Tox. 1; H304)</p>		x	x	no use of mixtures classified as toxic for aspiration	<p>Toy Safety Directive (Spz-RL)</p>
<p><b>Benzene</b></p>	<p>Mixtures (e.g.: inks, paints), plastics (in particular PU, PS), adhesives</p>	x	x	5 mg/kg	<p>REACH Appendix XVII</p>
<p><b>Bisphenol A</b></p>	<p>e.g. polycarbonate, Finishes and varnishes based on epoxy resin</p>	x	put in the mouth as intended	≤ 0.04 mg/l	<p>Toy Safety Directive (Spz-RL) Attachment C</p>
<p><b>Lead content</b></p>	<p>Colours, finishes, plastics Metals and alloys (if accessible, removable or swallowable)</p>	x	x	≤ 90 mg/kg	<p>REACH Appendix XVII: Only jewellery including hair accessories: &lt; 0.05%</p>

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Cadmium content</b>	Plastics, varnishes, paints, inks, colour coatings, finishes (e.g. coated paper or coated textiles) Metals (only jewellery and jewellery parts)	x	x	< 100 mg/kg	REACH Appendix XVII: Certain plastic polymers: < 0.1% Liquid paints and varnishes: < 0.1% Liquid zinc-containing (> 10% Zn) paints and varnishes: < 0.1% Paints / varnishes on products: < 0.1% Jewellery including hair accessories: < 0.1%
<b>Chlorinated paraffins, short chain (Chloroalkanes C10 - C13) (SCCPs)</b>	Leather and leather items; PVC and other soft plastics	x	x	≤ 0.1%	POP Regulation: < 0.15% per (part) product
<b>Chromium VI - Content</b> Also to be observed: EN 71-9	Leather and leather items	x	x	< 3.0 mg/kg	REACH Appendix XVII
<b>Dimethyl fumarate</b>	Leather, leather products, dry pack	x	x	≤ 0.1 mg/kg	REACH Appendix XVII
<b>Emission of volatile organic compounds (including formamide according to the draft amendment to Directive 2009/48/EC)</b>	Toys intended for indoor use (two-dimensional, > 0.5 m <sup>2</sup> ) e.g.: puzzle mats, carpets for playing on refer to Attachment 1	x	x	refer to Attachment 2	Toy Safety Directive (Spz-RL) Attachment C - Toys for children < 3 years: emission limit value for formamide: 20 µg/m <sup>3</sup> (at the latest 28 days after the start of the emission tests)
<b>Formamide</b>	Accessible foamed plastic, except PS	x	x	≤ 30 mg/kg	Toy Safety Directive (Spz-RL) Attachment C - Toys for children < 3 years: content limit value for formamide < 200 mg/kg In the case of toys or parts of toys not intended to come into contact with the skin, a VOC assessment may also be carried out

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Dimethylformamide</b>	Synthetic leather	x	x	≤ 30 mg/kg	< 200 mg/kg In the case of toys or parts of toys not intended to come into contact with the skin, a VOC assessment may also be carried out.
Flame retardants <b>Polybrominated diphenyl ethers (PBDEs)</b> <b>Polybrominated biphenyls (PBBs)</b> <b>Tri-(2,3 dibromopropyl) phosphate (TRIS / TDBPP) [CAS No. 545-55-1]</b>  Devices with an electric function: refer to the RoHS	All materials where flame retardants may be of relevance, e.g.: textiles	x	x	PBDEs C1 (mono) - C10 (deca) per < 10 mg/kg  PBDEs C1 (mono) - C10 (deca) per < 100 mg/kg  TRIS < 100 mg/kg	REACH Appendix XVII - Textiles with skin contact: Hexabromo-biphenyl [CAS No. 59536-65]: Prohibited use (< 100 mg/kg) TRIS: Prohibited use < 100 mg/kg  POP Regulation + REACH Appendix XVII: Tetra-, penta-, hexa-, hepta-BDEs: per ≤ 10 mg/kg Octa-, Deca-BDE: per < 0.1%
<b>Flame retardants: Hexabromocyclododecane</b>	Foamed styrene	x	x	≤ 100 mg/kg	POP Regulation
<b>Organophosphates</b>  <b>Tris(2-chloroethyl) phosphate (TCEP) [CAS: 115-96-8]</b>  <b>Tris(2-chloroisopropyl) phosphate (TCPP) [CAS: 13674-84-5]</b>  <b>Tris(1,3-dichloroisopropyl) phosphate (TDCP) [CAS: 13674-87-8]</b>	Textiles (Application on all textile materials, regardless of accessibility) Foamed plastics (Application on all foamed materials, regardless of accessibility)	x	x	< 5 mg/kg	Toy Safety Directive (Spz-RL) Attachment C: per < 5 mg/kg general limit values for CMR substances: TCEP: < 0.3 % TDCPP: < 1 %

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Formaldehyde</b>	Materials: Wood-based materials (no testing of solid wood), textiles, leather, paper and cardboard (Definition, refer to EN 71-1) However, not in the case of toys with large glued surfaces, see formaldehyde emission	x	x	Wood-based materials: Flask method: ≤ 110 mg/kg  Wood-based materials: Flask method EN 717-3: ≤ 110 mg/kg  Textiles and leather: ≤ 16 mg/kg (in case of toys for children < 3 years)  ≤ 75 mg/kg (in case of articles for children from 3 years)  Paper and cardboard: ≤ 30 mg/kg	Toy Safety Directive (Spz-RL) if applicable: EN 71-9 otherwise classification as carcinogenic substance: < 0.1% (m/m) for wood-based materials additional emission limit value according to German Regulation on Prohibited Chemicals (Chem-VerbotsV)
<b>Formaldehyde emission (toys with large glued surfaces)</b>	Toys intended for indoor use total surface area > 0.5 m <sup>2</sup> e.g.: play kitchens, shops, table football, chalkboard, etc. Materials: Wood-based materials (MDF, glued wood) (no testing of solid wood)	x	x	entire product: ≤ 0.1 ml/m <sup>3</sup> (ppm) in accordance with the specifications of the German Regulation on Prohibited Chemicals (ChemVerbotsV) for furniture	German Regulation on Prohibited Chemicals (Chem-VerbotsV) ≤ 0.1 ml/m <sup>3</sup> (ppm) for wood-based materials and furniture
<b>GC overview analysis</b>	Mixtures (e.g.: inks, paints, ...)	x	x	No use of CMR substances (< 100 mg/kg) no labelling obligation (except toys within the scope of EN 71-4 or EN 71-5)	CMR substances < classification limit value. No classification as harmful or as toxic to target organs. Classification with EUH208 is acceptable
<b>Odour</b>	Entire product: Attachment 1	x	x	no noticeable odour when unpacking; during odour test as per Attachment 2: ≤ Level 3	if odour > level 3, the cause must be clarified, e.g. by means of a VOC measurement and classification

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<p><b>Preservatives</b></p> <p>Also to be observed: EN 71-9 (where applicable) EN 71-7 (Requirements for finger paints) if applicable</p>	<p>liquid mixtures</p> <p>Note: In addition, EN 71 Part 9 must be observed, also for children &gt; 36 months</p>	x	x	<p>CIT/MIT 3:1: &lt; 15 mg/kg MIT: &lt; 100 mg/kg BIT: &lt; 5 mg/kg OIT: &lt; 5 mg/kg Phenol: &lt; 10 mg/kg Formaldehyde &lt; 500 mg/kg Stricter limit values in accordance with the Toy Safety Directive (Spz-RL) for watery materials in toys for children &lt; 3 years: CIT/MIT 3:1: ≤ 1 mg/kg CIT: ≤ 0.75 mg/kg MIT: ≤ 0.25 mg/kg BIT: ≤ 5 mg/kg</p>	yes
<p><b>Microbiological testing</b></p>	<p>Brush with natural bristles. Playing sand, watery mixtures (e.g.: soap bubble liquid, inks, finger paints)</p>	x	x	<p>Watery materials &amp; kinetic sand: Limit values according to NB Toys 2016/014</p> <p>Natural sand: Limit values based on NB Toys 2016/014, except: Total bacteria count &lt; 10<sup>5</sup> CFU/g</p> <p>Brush bristles: Total bacteria count &lt; 10<sup>6</sup> CFU/g Faecal and hygiene indicators &lt; 10 CFU/g</p> <p>Other natural materials: assessment depending on exposure Materials with a mouldy odour: only test for yeasts and moulds; assessment depending on exposure</p>	yes
<p><b>Monomeric vinyl chloride (content)</b></p>	PVC	x	x	≤ 1 mg/kg	Consumer Goods Ordinance (BedGgstV)



Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Nickel release</b>	Metallic surfaces with prolonged skin contact. Definition of prolonged skin contact according to the European Chemicals Agency (ECHA) as of 02.04.2014: a. Minimum of three skin contacts lasting 10 minutes over a period of 2 weeks or b. Minimum one skin contacts lasting 30 minutes over a period of 2 weeks	x	x	≤ 0.5 µg/cm <sup>2</sup> /week	REACH Appendix XVII / EN 1811: ≤ 0.88 µg/cm <sup>2</sup> /week
<b>Nickel content</b>		x	x	Surface area < 1% Nickel	Toy Safety Directive (SPZ-RL) (carcinogenic)
<b>N-nitrosamines and N-nitrosatable Substances</b>	EN 71-12 Toys and toy parts made of elastomer, natural or synthetic rubber that children may put in their mouths	x	Elastomeric materials that are intended to be placed in the mouth  Finger paints	EN 71-12: Toys for children < 36 months, that are intended or likely to be put in the mouth Σ N-Nitrosamines: < 0.01 mg/kg Σ N-nitrosatable substances: < 0.1 mg/kg Other toys: Σ N-Nitrosamines: < 0.05 mg/kg Σ N-nitrosatable substances: < 1 mg/kg  German Consumer Goods Ordinance (BedGgstV): Σ N-Nitrosamines: < 0.01 mg/kg Σ N-nitrosatable substances: < 0.1 mg/kg	Toy Safety Directive (SpzRL): EN 71-12: 2013 + German Consumer Goods Ordinance (BedGgstV)
<b>Alkylphenols (AP) and alkylphenol ethoxylates (APEO)</b>  <b>Nonylphenol (NP), Octylphenol (OP) and Nonylphenol ethoxylates (NPEO) Octylphenol ethoxylates (OPEO)</b>	All textiles (accessible and non-accessible)	x	x	< 0.01 %	REACH Appendix XVII: Nonylphenol ethoxylates < 0.01% applicable from 03.02.2021

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
Polycyclic aromatic hydrocarbons (PAH)	AfPS (Product Safety Commission) GS Specification 2014:01 PAH	x	x	AfPS (Product Safety Commission) specification PAH guide and material matrix according to EEG2/WG 2.2	yes
Chlorophenols Pentachlorophenol (PCP), Tetrachlorophenol (TCP), Trichlorophenol (TriCP)	Natural materials (wood, ...), paper, paintbrush hair, bristles, leather	x	x	≤ 0.5 mg/kg in each case for PCP, total TCP, total TriCP	German Regulation on Prohibited Chemicals (ChemVerbotsV): PCP ≤ 5.0 mg/kg  Toy Safety Directive (Spz-RL): 2,4,6-TCP < 1% (carcinogenic)
Phthalates  Incl. substances classified as toxic for reproduction according to the CLP Regulation 1272/2008/EC + DPHP (di-2-propyl-heptyl-phthalate)	Plastics, colour coatings and varnishes, mixtures and finishes on textiles	x	x	≤ 0.1% for the sum of DEHP, DBP, BBP  for toys that may be put in the mouth: ≤ 0.1% for the sum of DINP, DIDP, DNOP  Accessible materials: ≤ 0.1% DPHP ≤ 0.1% in each case for phthalates that are listed as SVHC substances or classified as CMR substances  For devices with electrical function the following applies additionally as of 22.07.2019: < 0.1% in each case for DEHP, DBP, BBP, DIBP in all materials	REACH Appendix XVII + TSD (toxic for reproduction)

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Plasticiser screening</b>	Plastics, plastic-coated materials	Materials that may be placed in the mouth (refer to the European Chemicals Agency (ECHA) Guidance for REACH Annex XVII entry 52)	Materials that are intended to be placed in the mouth e.g.: mouthpieces	German Federal Institute for Risk Assessment (BfR) XLVII: Use only plasticisers that are also approved for food contact materials  Only values ≥ 0.1 % are considered	yes
<b>RoHS</b>  Lead, cadmium, chromium VI, mercury,  polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE)  Phthalates (DEHP, DBP, BBP, DIBP)  + POP Regulation Hexabromocyclododecane (HBCDD)	Electrical and electronic equipment	x	x	≤ 0.1 % lead, ≤ 0.1 % mercury, ≤ 0.01 % cadmium ≤ 0.1 % chromium VI ≤ 0.1 % total PBBs ≤ 0.1 % total PBDEs ≤ 0.01 % HBCDD additionally as of 22.07.2019: < 0.1 % in each case for DEHP, DBP, BBP, DIBP	RoHS + POP Regulation
<b>Colour permeability in articles of daily use (saliva and perspiration fastness)</b>	All accessible materials	x	Materials that are intended to be placed in the mouth e.g.: mouthpieces	Grade 5	yes
<b>Specific migrations as per the Consumer Goods and Feedstuffs Code (LFGB)</b>	Plastics for children < 36 months that are intended to be placed in the mouth	x	x	Compliance with the specific migration limit values for materials that come into contact with food	yes
<b>Heavy metals</b> in accordance with EU Directive No. 2006/66/EC „Batteries and accumulators“ Lead, cadmium, mercury	Batteries	x	x	Directive 2006/66/EC: ≤ 0.004 % lead ≤ 0.002 % cadmium ≤ 0.0005 % mercury or Labelling	yes

Parameters	current application of the test parameters			Limit value	GS mark relevant
		Toy < 36 months	Toy ≥ 36 months		
<b>Organotin compounds</b>	as per EN 71-1 accessible textiles, plastics and colour coatings not in case of reduced quantities < 10 mg (Note: finger paints, putties, paper and cardboard must be tested in accordance with Directive 2009/48 in conjunction with EN 71 Part 3)	Only surface areas > 10 cm <sup>2</sup> are tested  Partial areas < 10 cm <sup>2</sup> (e.g. imprints) are tested with the base material)	Only surface areas > 10 cm <sup>2</sup> are tested  Partial areas < 10 cm <sup>2</sup> (e.g. imprints) are tested with the base material)	≤ 1.0 mg/kg  Methyltin Dimethyltin (DMT) Di-n-propyltin Monobutyltin (MBT) Dibutyltin (DBT) Tetrabutyltin (TeBT) Monoocetyl tin (MOT) Dioctyltin (DOT) Tricyclohexyltin (TcyT) Diphenyltin Triphenyltin (TPht)  ≤ 0.5 mg/kg  Tributyltin (TBT)	Limit values as per REACH Appendix XVII:  Trisubstituted organotin compounds in (partial) products: ≤ 0.1%  Dibutyltin (DBT) compounds in mixtures and (partial) products: ≤ 0.1%  Dioctyltin (DOT) compounds in certain (partial) products: ≤ 0.1%  calculated as tin in each case

**Attachment 1:**

**Polycyclic aromatic hydrogens**

TO BE TESTED	NOT TO BE TESTED
<b>All accessible materials with a weight &gt; 50 mg, e.g.:</b>	<b>Reduced quantities ≤ 50 mg, also:</b>
Textiles, plastics	Metals
Leather	Untreated wood
Paper/cardboard	Galvanised surfaces
Paints/varnishes/inks	Glass
Chalks	Ceramics
Putties	Natural stones
etc.	Soap bubble liquid

Attachment 2:

2.1 Odour test

Investigation parameters	Certificate requirements	Evaluation bases
Odour test/ odour emission	≤ Level 3 (noticeable, unobtrusive)	Evaluation according to a 5-level scale in accordance with the quality and test specifications RAL-GZ 430: 1 = no odour 2 = faint odour 3 = noticeable, unobtrusive odour 4 = unpleasant odour 5 = unbearable odour - in the test chamber - for products with small parts: Testing pursuant to SNV 195651

2.2 Emission test

Toy items made of various materials with a surface area of  $\geq 0.5 \text{ m}^2$  or with a volume of  $0.125 \text{ m}^3$  (in each case in a ready-to-use state) as well as smaller toy items where there is reason to suspect the release of toxicologically relevant compounds.

Testing method	in accordance with DIN EN 717-1, DIN ISO 16000-3, DIN EN ISO 16000-9 and DIN ISO 16000-6	
Test chamber conditions	Test chamber size	0.022 – 25 m <sup>3</sup>
	Air exchange rate	1 ± 0,05 h <sup>-1</sup>
	rel. air humidity	50 % ± 3 %
	Temperature	23 °C ± 1 °C
	Loading factor	variable unit / VPK
	Measuring times	24 and 168 hours

Investigation parameters	Certificate requirements Test chamber concentrations	Evaluation bases
<b>Formaldehyde emission</b>		
Requirement after max. 7 days	≤ 10 µg/m <sup>3</sup> [≤ 0.008 ppm]	in accordance with DIN EN 717-1 or according to DIN ISO 16000-3
<b>Emissions of higher aldehydes after max. 7 days</b>		
Acetaldehyde	≤ 20 µg/m <sup>3</sup>	in accordance with DIN ISO 16000-3, DIN ISO 16000-6
Sum of aldehydes C <sub>3</sub> -C <sub>10</sub>	≤ 50 µg/m <sup>3</sup>	in accordance with DIN ISO 16000-3, DIN ISO 16000-6
<b>Emissions of liquid organic compounds (VOC)<sup>1</sup></b>		
<b>CMR substances<sup>2</sup> after 24 hours</b>		
Carcinogens classified as category 1A (Carc. 1A) (Total)	< 1 µg/m <sup>3</sup>	TRLP guide values, § 30 of the Consumer Goods and Feedstuffs Code (LFGB)
Carcinogens classified as category 1B (Carc. 1B) and Germ cell mutagens classified as category 1B (Muta. 1B) (Total) and substances toxic to reproduction that are classified as Category 1A (Repr. 1A) and 1B (Repr. 1B) (Total)	≤ 1 µg/m <sup>3</sup>	
Carcinogens, mutagens and reprotoxic substances in Category 2 <sup>3</sup> (Total)	≤ 10 µg/m <sup>3</sup>	

Investigation parameters	Certificate requirements Test chamber concentrations	Evaluation bases
<b>CMR substances<sup>2</sup> after max. 7 days</b>		
Carcinogens classified as category 1A (Carc. 1A) (Total)	< 1 µg/m <sup>3</sup>	TRLP guide values, § 30 of the Consumer Goods and Feedstuffs Code (LFGB)
Carcinogens classified as category 1B (Carc. 1B) and Germ cell mutagens classified as category 1B (Muta. 1B) (Total) and substances toxic to reproduction that are classified as Category 1A (Repr. 1A) and 1B (Repr. 1B) (Total)	≤ 1 µg/m <sup>3</sup>	
Carcinogens, mutagens and reprotoxic substances in Category 2 <sup>3</sup> (Total)	≤ 5 µg/m <sup>3</sup>	
<b>Volatile organic compounds after max. 7 days</b>		
Substances classified as acutely toxic according to Categories 1, 2 and 3 (Acute tox. 1, 2, 3), or substances with specific target organ toxicity according to Category 1 (STOT single exposure 1, STOT repeated exposure 1) <sup>4</sup> (Total)	≤ 15 µg/m <sup>3</sup>	TRLP guide values, § 30 of the Consumer Goods and Feedstuffs Code (LFGB)
Substances listed in Annex VI of Regulation (EC) No. 1272/2008 (GHS) as inhalation allergens (Category 1) and skin allergens (Category 1) or classified under TRGS 907 or the MAK and BAT values list as sensitising	≤ 10 µg/m <sup>3</sup>	
Total volatile organic compounds in the retention range < C <sub>6</sub> (TVVOC) <sup>5</sup> , C <sub>6</sub> – C <sub>16</sub> (TVOC) <sup>6</sup> as well as > C <sub>16</sub> – C <sub>22</sub> (TSVOC) <sup>7</sup>	≤ 100 µg/m <sup>3</sup>	
<b>R-value<sup>8</sup></b>	≤ 1	
<b>∑ VOC without LCI<sup>8</sup> (Total)</b>	≤ 25 µg/m <sup>3</sup>	

## Footnotes:

\*For toys that contain formaldehyde-relevant components, it is permitted to choose a surface-specific test approach (surface-related air exchange rates 1 m<sup>3</sup>/m<sup>2</sup>h) with the subsequent conversion of the test results to the entire article (emission rate µg/unit h) and incorporating calculation of the expected indoor air concentration.

<sup>1</sup> VOC = Volatile Organic Compounds: Compounds that can be adsorbed on the Tenax-TA® absorption medium in the retention ranges < C<sub>6</sub> (VVOC, highly volatile organic compounds), C<sub>6</sub> – C<sub>16</sub> (VOC, volatile organic compounds) and > C<sub>16</sub> – C<sub>22</sub> (SVOC, low volatile organic compounds).

<sup>2</sup> CMR = carcinogenic (Carc.), mutagenic (Muta.), toxic for reproduction (Repr.) as per EU classification pursuant to Annex VI of Regulation (EC) No. 1272/2008 (GHS) of Categories 1A, 1B and 2 as well as in accordance with national classification as per TRGS 905 or the MAK and BAT values list of the German Research Foundation (DFG) (Categories 1, 2 and 3 as well as Pregnancy Groups A and B). If the product is promoted for international markets, additional chemical registers/classifications (if accessible) of the respective marketing country are to be taken into account for evaluation.

<sup>3</sup> The requirement concerning the total of CMR substances classified in Category 2 (or according to national requirement Category 3) is not taken into account in the evaluation.

<sup>4</sup> Substances listed in Annex VI of Regulation (EC) No. 1272/2008 (GHS) as acutely toxic and as specific target organ toxic, or substances that are classified as very toxic (T+) or toxic (T) according to § 3 points 6 and 7 of the German Hazardous Substance Ordinance (GefStoffV).

<sup>5</sup> TVVOC: Total Very Volatile Organic Compounds (< C<sub>6</sub>)

<sup>6</sup> TVOC: Total Volatile Organic Compounds (C<sub>6</sub> – C<sub>16</sub>)

<sup>7</sup> TSVOC: Total Semi Volatile Organic Compounds (> C<sub>16</sub> – C<sub>22</sub>)

<sup>8</sup> R = ∑ Ci / LCI value; LCI = lowest concentration of interest

## Attachment 3:

Note: The limit values were set in accordance with Directive 2009/48/EC or EN 71-3 with the exception of: antimony, barium, arsenic, mercury in Cat. I and II (based on ASTM F963 or NSAI I.S. 253)

### 3.1 Odour test

Element	Dry, dusty, brittle or malleable toy materials Cat. I [mg/kg]	Liquid or adhesive toy materials Cat. II [mg/kg]	Scraped-off toy material Cat. III [mg/kg]
Aluminium	5625	1406	70000
Antimony	45	11.3	60 <sup>1)</sup>
Arsenic	3.8	0.9	25 <sup>1)</sup>
Barium	500 <sup>1)</sup>	375	500 <sup>1)</sup>
Boron	1200	300	15000
Cadmium	1.3	0.3	17
Chromium III	37,5	9,4	460
Chromium VI	0.02	0,005	0.053
Cobalt	10,5	2.6	130
Copper	622.5	156	7700
Lead	2	0.5	23
Manganese	1200	300	15000
Mercury	7.5	1.9	60 <sup>1)</sup>
Nickel	75	18.8	930
Selenium	37.5	9,4	460
Strontium	4500	1125	56000
Tin	15000	3750	180000
Organotin compounds	0.9	0.2	12
Zinc	3750	938	46000

#### Footnotes:

<sup>1)</sup> These limit values deviate from Directive 2009/48/EC or EN 71 Part 3.

### Organotin compounds

Organotin compounds can be evaluated through screening: if the tin migration is below the screening limit, then compliance with the limit value can be confirmed. In case migratable tin is detected in quantities above the screening limit, then further testing for organotin compounds must be carried out.

For metals, it is not necessary to determine organotin compounds.

At least the following parameters must be recorded, possibly more in the case of anomalies.

Components
Methyltin
Dimethyltin (DMT)
Di-n-propyltin
Monobutyltin (MBT)

Components
Dibutyltin (DBT)
Tributyltin (TBT)
Tetrabutyltin (TeBT)
Monooctyltin (MOT)
Diocetyl tin (DOT)
Tricyclohexyltin (TcyT)
Diphenyltin
Triphenyltin (TPht)

## Attachment 4:

### Packaging

Packaging is assessed analogously as per Guideline 12.

Notwithstanding the above, packaging, even if not classified as a toy, but which will be kept with the toy over its lifespan (e.g. kite bags, chalk/putty/finger-painting containers), is tested in the same way as toys.

## Attachment 5:

### Allergenic and carcinogenic dyes

Dyes classified as allergenic

Dye/dyestuff	Colour index	CAS No.
Disperse Blue 1	C.I. 64 500	2475-45-8
Disperse Blue 3	C.I. 61 505	2475-46-9
Disperse Blue 7	C.I. 62 500	3179-90-6
Disperse Blue 26	C.I. 63 305	3860-63-7
Disperse Blue 35		12222-75-2
Disperse Blue 102		12222-97-8
Disperse Blue 106		12223-01-7
Disperse Blue 124		61951-51-7
Disperse Brown 1		23355-64-8
Disperse Orange 1	C.I. 11 080	2581-69-3
Disperse Orange 3	C.I. 11 005	730-40-5
Disperse Orange 37 /76	C.I. 11 132	12223-33-5 / 13301-61-6
Disperse Red 1	C.I. 11 110	2872-52-8
Disperse Red 11	C.I. 62 015	2872-48-2
Disperse Red 17	C.I. 11 210	3179-89-3



Dye/dyestuff	Colour index	CAS No.
Disperse Yellow 1	C.I. 10 345	119-15-3
Disperse Yellow 3	C.I. 11 856	2832-40-8
Disperse Yellow 9	C.I. 10 375	6373-73-5
Disperse Yellow 39		12236-29-2
Disperse Yellow 49		54824-37-2

## Dyes and pigments classified as carcinogenic

Dye/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 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	82-28-0
Disperse Yellow 3	C.I. 11 855	2832-40-8

## Further critical dyes

Dye/dyestuff	Colour index	CAS No.
Disperse Yellow 23	C.I. 26 070	6250-23-3
Disperse Orange 149		23355-64-8
Rhodamine B	C.I. 45170:1	81-88-9

Gütenbach, Germany, 15.03.2020

### GEBR. FALLER GMBH

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