

## Test Report

Number: SZHH01389296

Applicant: STEPHEN GOULD CORPORATION  
E702,HUABAO NO.1 BUILDING,  
NO.29 JINHUA ROAD,FUTIAN FTZ,  
SHENZHEN,518045,CHINA.

Date: Aug 21, 2019

Attn: RAIN LEI

### Sample Description:

Six (6) pieces of submitted sample said to be :

Item Name : **Osmo Super Studio Frozen Game & Frozen Kit.**  
Item No. : **902-00012 & 902-00016.**  
Labelled Age Group : 902-00012: Ages 5-10 Ans; 902-00016: Ages 5-10.  
Applicant Specified Age : Over 5 Years.  
Grading for Testing :  
Packaging Provided by Applicant : Yes.  
Additional Material and Wet Paint Provided : No.  
Manufacturer : Stephen Gould.  
Buyer : Tangible Play, Inc.  
Country of Origin : China.  
Date Sample Received : Aug 06, 2019.  
Testing Period : Aug 06, 2019 ~ Aug 21, 2019.



### Tests conducted:

As requested by the applicant, refer to attached page(s) for details.



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Conclusion:

<u>Tested Samples</u> Submitted sample(s)	<u>Standard</u>	<u>Result</u>
	EN71-1:2014+A1:2018 for mechanical and physical properties	Pass
	EN71 Part 2 : 2011+A1:2014 Flammability test excluding flammability test on liquid	Pass
Tested components of submitted sample(s)	Flash Point Test	See test conducted
	EN71-3:2013+A3:2018 on migration of certain elements	Pass
	EN71-3:2013+A3:2018 on migration of certain elements & EU 2018/725 amending 2009/48/EC (effective from Nov 18,2019) for chromium (VI) migration	Pass
	EN71-3:2019 on migration of certain elements	Pass
	Cadmium content requirement in REACH regulation Annex XVII Item 23 (EC) No 1907/2006 and amendment No. 552/2009, 494/2011, 835/2012 and 2016/217	Pass
	Lead content requirement in Annex XVII Item 63 of the REACH Regulation (EC) No. 1907/2006 and amendment No. 552/2009, 836/2012, 2015/628 with effective from 1 June 2016	Pass
	94/62/EC and amendment 2004/12/EC & 2005/20/EC & 2013/2/EU & (EU) 2015/720 Directive (packaging waste) on toxic elements test	Pass
	Phthalates content requirement in Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009	Pass
	Phthalates content requirement in Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & (EU) 2018/2005. [(EU) 2018/2005 is applicable to products including toys and childcare articles placed on the market after 7 July 2020]	Pass



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<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Tested components of submitted samples	AfPS GS 2014:01 PAK (PAH) on Polycyclic Aromatic Hydrocarbons (PAHs) Content	Pass
	Polycyclic Aromatic Hydrocarbons (PAHs) Content Requirement In Annex XVII Item 50 of the REACH Regulation (EC) NO. 1907/2006 & Amendment No. 552/2009 and 1272/2013	Pass
	Short Chain Chlorinated Paraffin (C10 - C13) (SCCP) content requirement in Regulation (Eu) No. 2019/1021	Pass
Submitted sample(s)	EU REACH Regulation No 1907/2006 Article 33(1) Obligation to provide information of safe use (see REACH requirement in report for details)	Meet requirement
	<u>Requirement</u> EU Safety Assessment	See comment

Authorized by:  
For Intertek Testing Services  
Shenzhen Ltd.




Ben N.L. Lin  
General Manager



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Tests Conducted

1 Mechanical and Physical Test

As per European Standard on Safety of toys EN71-1:2014+A1:2018.

The submitted samples were undergone the following abuse tests:		
Test	Clause	Parameter
Torque test	8.3	0.34 Nm
Tension test	8.4.2.1	90 N
Drop test	8.5	850 mm x 5times
Impact test	8.7	1 kg
Compression test	8.8	110 N

Clause	Testing items	Assessment
4	General requirements	
4.1	Material	P
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	P
4.6	Expanding materials	NA
4.7	Edges	P
4.8	Points and metallic wires	P
4.9	Protruding parts	NA
4.10	Parts moving against each other	NA
4.11	Mouth actuated toys and other toys intended to be put in the mouth	NA
4.12	Balloons	NA
4.13	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectile toys	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	P
4.24	Yo-yo balls	NA
4.25	Toys attached to food	NA



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Clause	Testing items	Assessment
4.26	Toy disguise costumes	NA
4.27	Flying toys	NA
5	Toys intended for children under 36 months	
5.1	General requirements	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords, chains and electrical cables in toys	NA
5.5	Liquid filled toys	NA
5.6	Speed limitation of electrically-driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15	Sledges with cords for pulling	NA
6	Packaging	NA
7	Warnings, markings and instructions for use	
7.1	General	P
7.2	Toys not intended for children under 36 months	P/#
7.3	Latex balloons	NA
7.4	Aquatic toys	NA
7.5	Functional toys	NA
7.6	Hazardous sharp functional edges and points	NA
7.7	Projectile toys	NA
7.8	Imitation protective masks and helmets	NA
7.9	Toy kites	NA
7.10	Roller skates, inline skates and skateboards and certain other ride-on toys	NA
7.11	Toys intended to be strung across a cradle, cot, or perambulator	NA
7.12	Liquid-filled teethingers	NA
7.13	Percussion caps specifically designed for use in toys	NA
7.14	Acoustics	NA
7.15	Toy bicycles	NA
7.16	Toys intended to bear the mass of a child	NA
7.17	Toys comprising monofilament fibres	NA



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Clause	Testing items	Assessment
7.18	Toy scooters	NA
7.19	Rocking horses and similar toys	NA
7.20	Magnetic/electrical experimental sets	NA
7.21	Toys with electrical cables exceeding 300 mm in length	NA
7.22	Toys with cords or chains intended for children of 18 months and over but under 36 months	NA
7.23	Toys intended to be attached to a cradle, cot or perambulator	NA
7.24	Sledges with cords for pulling	NA
7.25	Flying toys	NA
7.26	Improvised projectiles	NA

Remark : P = Pass NA = Not Applicable

# = - Age warning statement, graphical symbol and the indication of hazard was found on the packaging.

Remark : Additional information according to the Toy Safety Directives 2009/48/EC requirement. These information also appears as a note within the EN71 but are not standard requirements:

1. Marking

The manufacturer's and importer's name, registered trade name or registered trade mark, the address and the CE-marking shall be indicated on the toy or, where that is not possible, on its packaging or in a document accompany the toy. In addition, manufacturers shall ensure that their toys bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy.

- Manufacturer's name was on the packaging & toy.
- Manufacturer's address was on the packaging.
- Importer's name was on the packaging & toy.
- Importer's address was on the packaging.
- Product identification code was on the packaging.
- CE-marking was on the packaging & toy.



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Tests Conducted

2 Flammability Test

As per European Standard on Safety of Toys EN71-2:2011+A1:2014

Clause	Testing items	Assessment
4.1 *	General	P
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by a child in play	NA
4.4	Toys intended to be entered by a child	NA
4.5	Soft filled toys	NA

Remark: P = Pass NA = Not applicable

\* = The results of flammability test on liquid shall refer to the next test item.

3 Flash Point Test

With reference to EN ISO 3679:2004, Determination of flashpoint — Rapid equilibrium closed cup method.

<u>Tested Component</u>	<u>Result (Flashpoint)</u>
(1) Super marker	Above 60°C

Remark : With reference to EN71-2:2011+A1:2014, the definitions of flammable liquid are as follows:

Flashpoint	Substance to be considered as
liquid having a flash point < 23 °C and initial boiling point ≤ 35 °C	Extremely flammable
liquid having a flash point < 23 °C and initial boiling point > 35 °C	Highly flammable
liquid having a flash point ≥ 23 °C and ≤ 60 °C	Flammable

Results:

According Regulation (EC) No 1272/2008, the liquid is not considered to be an extremely flammable, highly flammable or flammable substance.



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4 19 Toxic Element Migration Test

(A) Test Result

As per EN71-3:2013+A3:2018 and followed by Inductively Coupled Plasma Atomic Emission Spectrometry, Inductively Coupled Argon Mass Spectrometry, Ion Chromatography- Inductively Coupled Plasma-Mass Spectrometry, Ion Chromatography with UV-VIS and Gas Chromatographic - Mass Spectrometry.

Category (II): Liquid or sticky toy material

Element	Result (mg/kg)	Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component		
	(3)		
Aluminium (Al)	ND	100	1406
Antimony (Sb)	ND	1.0	11.3
Arsenic (As)	ND	0.5	0.9
Barium (Ba)	ND	10	375
Boron (B)	ND	50	300
Cadmium (Cd)	ND	0.1	0.3
Chromium (III) (Cr III) **	ND	1.0	9.4
Chromium (VI) (Cr VI) **	ND#	0.0025	0.005
Cobalt (Co)	ND	1.0	2.6
Copper (Cu)	ND	10	156
Lead (Pb)	ND	0.1	0.5
Manganese (Mn)	ND	10	300
Mercury (Hg)	ND	1.0	1.9
Nickel (Ni)	ND	1.0	18.8
Selenium (Se)	ND	1.0	9.4
Strontium (Sr)	ND	100	1125
Tin (Sn)	ND	0.05	3750
Organic tin **	ND	0.15	0.2
Zinc (Zn)	ND	100	938



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Category (III): Scraped-off toy material

Element	Result (mg/kg)		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(5)	(6)		
Aluminium (Al)	ND	ND	300	70000
Antimony (Sb)	ND	ND	10	560
Arsenic (As)	ND	ND	10	47
Barium (Ba)	ND	ND	10	18750
Boron (B)	ND	ND	50	15000
Cadmium (Cd)	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND#	ND#	0.025	0.2/0.053◎
Cobalt (Co)	ND	ND	10	130
Copper (Cu)	ND	ND	10	7700
Lead (Pb)	ND	ND	10	23
Manganese (Mn)	ND	ND	10	15000
Mercury (Hg)	ND	ND	10	94
Nickel (Ni)	ND	ND	10	930
Selenium (Se)	ND	ND	10	460
Strontium (Sr)	ND	ND	100	56000
Tin (Sn)	2.7	3.7	2.5	180000
Organic tin **	6.6	9.0	2.0	12
Zinc (Zn)	ND	ND	100	46000

Element	Result (mg/kg) θ		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(4),(7)to(14),(17)			
Aluminium (Al)	ND	ND	300	70000
Antimony (Sb)	ND	ND	10	560
Arsenic (As)	ND	ND	10	47
Barium (Ba)	ND	ND	10	18750
Boron (B)	ND	ND	50	15000
Cadmium (Cd)	ND	ND	5	17
Chromium (III) (Cr III) **	ND	ND	10	460
Chromium (VI) (Cr VI) **	ND#	ND#	0.025	0.2/0.053◎
Cobalt (Co)	ND	ND	10	130
Copper (Cu)	ND	ND	10	7700
Lead (Pb)	ND	ND	10	23
Manganese (Mn)	ND	ND	10	15000
Mercury (Hg)	ND	ND	10	94
Nickel (Ni)	ND	ND	10	930
Selenium (Se)	ND	ND	10	460
Strontium (Sr)	ND	ND	100	56000
Tin (Sn)	ND	ND	2.5	180000
Organic tin **	ND	ND	2.0	12
Zinc (Zn)	ND	ND	100	46000



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Remark : mg/kg = milligram per kilogram  
++ = Unless the test results were marked with "#" or "Δ", Chromium (III) & Chromium (VI) and Organic tin contents were not directly determined and were derived from migration results of total chromium and tin respectively.  
- Organic tin test result was expressed as tributyl tin.  
ND = Not detected (less than reporting limit)  
θ = Single result for each test component/group  
⊙ = The new chromium (VI) migration limit [(0.053mg/kg for Category (III))] were quoted from directive (EU) 2018/725 amending 2009/48/EC effective from 18 November 2019.  
# = Confirmation of Chromium (VI) test was performed on the tested component. And the reported value of migration of Chromium (III) = migration value of total Chromium – migration value of Chromium(VI).  
Δ = Confirmation test was performed on the tested component. The reported value was the sum of the migration values of Methyl tin, Butyl tin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin and Triphenyl tin after converted to Tributyl tin by calculation. Other Organic tin compounds may be also be present in sample as stated in EN71-3:2013+A3:2018.

Tested Component(s): See component list in the last section of this report

(B) Categories of various toy materials

Category I: Dry, brittle, powder like or pliable

Solid toy material from which powder-like material is released during playing and semi-solid materials that may also leave residues on the hands during play. The material can be ingested. Contamination of the hands with the material may contribute to the oral exposure of the material. (e.g. the cores of colouring pencils, chalk, crayons, modelling clays and plaster).

Category II: Liquid or sticky

Fluid or viscous toy material, which can be ingested or to which dermal exposure may occur during playing. (e.g. liquid paints, finger paints, liquid ink in pens, glue sticks, slimes, bubble solution).

Category III: Scraped-off

Solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking. (e.g. coatings, lacquers, plastics, paper, textiles, glass, ceramic, metallic, wooden, bone, leather and other materials).



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Tests Conducted

5 19 Toxic Element Migration Test

(A) Test Result

As per EN71-3:2019 and followed by Inductively Coupled Plasma Atomic Emission Spectrometry, Inductively Coupled Argon Mass Spectrometry, Ion Chromatography- Inductively Coupled Plasma-Mass Spectrometry, Ion Chromatography with UV-VIS and Gas Chromatographic - Mass Spectrometry.

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	Tested Component		
	(3)		
Aluminium (Al)	ND	100	1406
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Cobalt (Co)	ND	1.0	2.6
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	Tested Component			
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Aluminium (Al)	ND	ND	300	70000
Antimony (Sb)	ND	ND	10	560
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Cadmium (Cd)	ND	ND	5	17
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Zinc (Zn)	ND	ND	100	46000

Element	Result (mg/kg) θ		Reporting Limit (mg/kg)	Limit (mg/kg)
	Tested Component			
	(4),(7)to(14),(17)			
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Δ = Confirmation test was performed on the tested component. The reported value was the sum of the migration values of Dimethyl tin, Methyl tin, Butyl tin, Dibutyl tin, Tributyl tin, Tetrabutyl tin, n-Octyl tin, Di-n-octyl tin, Di-n-propyl tin, Diphenyl tin and Triphenyl tin after converted to Tributyl tin by calculation. Other Organic tin compounds may be also be present in sample as stated in EN71-3:2019

Tested Component(s): See component list in the last section of this report

(B) Categories of various toy materials

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Solid toy material with or without a coating, which can be ingested as a result of biting, tooth scraping, sucking or licking. (e.g. coatings, lacquers, plastics, paper, textiles, glass, ceramic, metallic, wooden, bone, leather and other materials).



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Tests Conducted

6 Cadmium (Cd) Content

With reference to test method IEC 62321-5:2013, acid digestion method was used and total Cadmium content was determined by Inductively Coupled Argon Plasma Spectrometry.

Element	Result (%) $\theta$	Reporting Limit (%)
	Tested Component	
	(1+2),(3),(4+5+6),(7+8+9),(10+11),(18+19)	
Cadmium (Cd)	ND	0.0005

Limit:

Category	Limit (%)
Wet paint	0.01
Surface coating	0.1
Plastic	0.01
Metal parts of jewelry & hair accessories	0.01

ND = Not detected (less than reporting limit)  
 $\theta$  = Single result for each test component/group

Tested Component(s): See component list in the last section of this report

7 Total Lead (Pb) Content

With reference to EPA3051A:2007, acid digestion was used and total Lead content was determined by Inductively Coupled Argon Plasma Spectrometry.

Element	Result (%) $\theta$	Reporting Limit (%)	Limit (%)
	Tested Component		
	(1+2),(3),(4+5+6),(7+8+9),(10+11),(12)to(16),(24)		
Lead (Pb)	ND	0.001	0.05

ND = Not detected (less than reporting limit)  
 $\theta$  = Single result for each test component/group

Tested Component(s): See component list in the last section of this report



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8 Toxic Elements Analysis

As per 94/62/EC and amendment 2004/12/EC & 2005/20/EC & 2013/2/EU & (EU) 2015/720 Directive on packaging and packaging waste, Hexavalent Chromium was used alkaline digestion method and determined by UV-Visible Spectrophotometry; Lead, Cadmium and Mercury was used acid digestion method and determined by Inductively Coupled Argon Plasma Spectrometry.

Element	Result (ppm) $\theta$	Reporting limit (ppm)	Limit (ppm)
	Tested component		
	(25),(26+27+28),(29+30+31),(32+33)		
Lead (Pb)	ND	5	--
Cadmium (Cd)	ND	5	--
Mercury (Hg)	ND	5	--
Chromium VI (Cr (VI))	ND	1	--
Sum of Pb, Cd, Hg and Cr (VI)	ND	--	100

ppm = part per million = mg/kg  
 ND = Not detected (less than reporting limit)  
 $\theta$  = Single result for each test component/group

Tested components: See component list in the last section of this report

9 Phthalate Content

With reference to International Standard ISO 8124-6:2018, and phthalate content was determined by Gas Chromatographic-Mass Spectrometric (GC-MS).

For 4 phthalate

Test Item	CAS No.	Result (%)	Reporting Limit (%)	Limit (%)
		Tested component		
		(18+19)		
Dibutyl phthalate (DBP)	84-74-2	ND	0.005	--
Di-(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ND	0.005	--
Benzyl butyl phthalate (BBP)	85-68-7	ND	0.005	---
Diisobutyl phthalate (DIBP)	84-69-5	ND	0.005	
Sum of DBP,DEHP, BBP and DIBP	--	ND	--	0.1



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For 7 phthalate

Test Item	CAS No.	Result (%) <sup>θ</sup>	Reporting Limit (%)	Limit (%)
		Tested component (1+2),(3),(4+5+6), (7+8+9),(10+11),(13)		
Dibutyl phthalate (DBP)	84-74-2	ND	0.005	--
Di-(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ND	0.005	--
Benzyl butyl phthalate (BBP)	85-68-7	ND	0.005	---
Diisobutyl phthalate (DIBP)	84-69-5	ND	0.005	
Sum of DBP, DEHP, BBP and DIBP	--	ND	--	0.1
Di-iso-nonyl phthalate (DINP)	28553-12-0/ 68515-48-0	ND	0.005	--
Di-n-octyl phthalate(DNOP)	117-84-0	ND	0.005	--
Di-iso-decyl phthalate (DIDP)	26761-40-0/ 68515-49-1	ND	0.005	--
Sum of DINP, DNOP and DIDP	--	ND	--	0.1

The above limit was quoted according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & Amendment Commission Regulation (EU) 2018/2005 for phthalate content in articles (formerly known as Directive 2005/84/EC).

For toys and childcare articles, combination of DIBP to current limit (sum of DBP, DEHP and BBP) was quoted from Commission Regulation (EU) 2018/2005 effective from 7 July 2020.

For non-toys and non-childcare articles, the limit (sum of DBP, DEHP, BBP and DIBP) was quoted from Commission Regulation (EU) 2018/2005 effective from 7 July 2020.

ND = Not detected (less than reporting limit)  
θ = Single result for each test component/group

Tested Component(s): See component list in the last section of this report



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Tests Conducted

10 Polycyclic Aromatic Hydrocarbons (PAHs) Content

With reference to AfPS GS 2014:01 PAK (PAH), by solvent extraction and determined by Gas Chromatography - Mass Spectrometer (GC/MS).

(I) Test Result

**Toys:**

Compound	CAS No.	Result (mg/kg)			Limit (mg/kg)		
		(5)	(6)	(7)	Category 1	Category 2	Category 3
Acenaphthylene	208-96-8	ND	ND	ND	--	--	--
Acenaphthene	83-32-9	ND	ND	ND	--	--	--
Fluorene	86-73-7	ND	ND	ND	--	--	--
Phenanthrene	85-01-8	ND	ND	ND	--	--	--
Anthracene	120-12-7	ND	ND	ND	--	--	--
Fluoranthene	206-44-0	ND	ND	ND	--	--	--
Pyrene	129-00-0	0.4	1.1	0.5	--	--	--
<b>Sum (7 PAHs):</b>	--	0.4	1.1	0.5	1	5	20
Naphthalene	91-20-3	ND	ND	ND	1	2	10
Benzo(a)Anthracene	56-55-3	ND	ND	ND	0.2	0.2	0.5
Chrysene	218-01-9	ND	ND	ND	0.2	0.2	0.5
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	ND	ND	0.2	0.2	0.5
Benzo(b)Fluoranthene	205-99-2	ND	ND	ND	0.2	0.2	0.5
Benzo(k)Fluoranthene	207-08-9	ND	ND	ND	0.2	0.2	0.5
Benzo(a)Pyrene	50-32-8	ND	ND	ND	0.2	0.2	0.5
Dibenzo(a,h)Anthracene	53-70-3	ND	ND	ND	0.2	0.2	0.5
Benzo(g,h,i)Perylene	191-24-2	ND	ND	ND	0.2	0.2	0.5
Benzo(e)Pyrene	192-97-2	ND	ND	ND	0.2	0.2	0.5
Benzo(j)Fluoranthene	205-82-3	ND	ND	ND	0.2	0.2	0.5
<b>Sum (18 PAHs):</b>	--	0.4	1.1	0.5	1	5	20
<b>Classification of samples: Category</b>	--	2	2	1	--	--	--
<b>Conclusion</b>	--	P	P	P	--	--	--



**Test Report**

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Tests Conducted

Compound	CAS No.	Result (mg/kg)	Limit (mg/kg)		
		(4)	Category 1	Category 2	Category 3
Acenaphthylene	208-96-8	ND	--	--	--
Acenaphthene	83-32-9	ND	--	--	--
Fluorene	86-73-7	ND	--	--	--
Phenanthrene	85-01-8	ND	--	--	--
Anthracene	120-12-7	ND	--	--	--
Fluoranthene	206-44-0	ND	--	--	--
Pyrene	129-00-0	ND	--	--	--
<b>Sum (7 PAHs):</b>	--	ND	1	5	20
Naphthalene	91-20-3	ND	1	2	10
Benzo(a)Anthracene	56-55-3	ND	0.2	0.2	0.5
Chrysene	218-01-9	ND	0.2	0.2	0.5
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	0.2	0.2	0.5
Benzo(b)Fluoranthene	205-99-2	ND	0.2	0.2	0.5
Benzo(k)Fluoranthene	207-08-9	ND	0.2	0.2	0.5
Benzo(a)Pyrene	50-32-8	ND	0.2	0.2	0.5
Dibenzo(a,h)Anthracene	53-70-3	ND	0.2	0.2	0.5
Benzo(g,h,i)Perylene	191-24-2	ND	0.2	0.2	0.5
Benzo(e)Pyrene	192-97-2	ND	0.2	0.2	0.5
Benzo(j)Fluoranthene	205-82-3	ND	0.2	0.2	0.5
<b>Sum (18 PAHs):</b>	--	ND	1	5	20
<b>Classification of samples: Category</b>	--	1	--	--	--
<b>Conclusion</b>	--	P	--	--	--



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Tests Conducted

Compound	CAS No.	Result (mg/kg)	Limit (mg/kg)		
		(3)	Category 1	Category 2	Category 3
Acenaphthylene	208-96-8	ND	--	--	--
Acenaphthene	83-32-9	ND	--	--	--
Fluorene	86-73-7	ND	--	--	--
Phenanthrene	85-01-8	ND	--	--	--
Anthracene	120-12-7	ND	--	--	--
Fluoranthene	206-44-0	ND	--	--	--
Pyrene	129-00-0	ND	--	--	--
<b>Sum (7 PAHs):</b>	--	ND	1	5	20
Naphthalene	91-20-3	ND	1	2	10
Benzo(a)Anthracene	56-55-3	ND	0.2	0.2	0.5
Chrysene	218-01-9	ND	0.2	0.2	0.5
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	0.2	0.2	0.5
Benzo(b)Fluoranthene	205-99-2	ND	0.2	0.2	0.5
Benzo(k)Fluoranthene	207-08-9	ND	0.2	0.2	0.5
Benzo(a)Pyrene	50-32-8	ND	0.2	0.2	0.5
Dibenzo(a,h)Anthracene	53-70-3	ND	0.2	0.2	0.5
Benzo(g,h,i)Perylene	191-24-2	ND	0.2	0.2	0.5
Benzo(e)Pyrene	192-97-2	ND	0.2	0.2	0.5
Benzo(j)Fluoranthene	205-82-3	ND	0.2	0.2	0.5
<b>Sum (18 PAHs):</b>	--	ND	1	5	20
<b>Classification of samples: Category</b>	--	2	--	--	--
<b>Conclusion</b>	--	P	--	--	--



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Tests Conducted

Compound	CAS No.	Result (mg/kg) $\theta$	Limit (mg/kg)		
		(8)to(11)	Category 1	Category 2	Category 3
Acenaphthylene	208-96-8	ND	--	--	--
Acenaphthene	83-32-9	ND	--	--	--
Fluorene	86-73-7	ND	--	--	--
Phenanthrene	85-01-8	ND	--	--	--
Anthracene	120-12-7	ND	--	--	--
Fluoranthene	206-44-0	ND	--	--	--
Pyrene	129-00-0	ND	--	--	--
<b>Sum (7 PAHs):</b>	--	ND	1	5	20
Naphthalene	91-20-3	ND	1	2	10
Benzo(a)Anthracene	56-55-3	ND	0.2	0.2	0.5
Chrysene	218-01-9	ND	0.2	0.2	0.5
Indeno(1,2,3-cd)Pyrene	193-39-5	ND	0.2	0.2	0.5
Benzo(b)Fluoranthene	205-99-2	ND	0.2	0.2	0.5
Benzo(k)Fluoranthene	207-08-9	ND	0.2	0.2	0.5
Benzo(a)Pyrene	50-32-8	ND	0.2	0.2	0.5
Dibenzo(a,h)Anthracene	53-70-3	ND	0.2	0.2	0.5
Benzo(g,h,i)Perylene	191-24-2	ND	0.2	0.2	0.5
Benzo(e)Pyrene	192-97-2	ND	0.2	0.2	0.5
Benzo(j)Fluoranthene	205-82-3	ND	0.2	0.2	0.5
<b>Sum (18 PAHs):</b>	--	ND	1	5	20
<b>Classification of samples: Category</b>	--	3	--	--	--
<b>Conclusion</b>	--	P	--	--	--

ND = Not detected (less than reporting limit)  
 Reporting limit = 0.2 mg/kg  
 $\theta$  = Single result for each test component/group  
 P = Pass

Tested Component(s): See component list in the last section of this report

(II) Categories for Products

Parameter	Product
Category 1	Materials intended to be put in the mouth, or materials of toys with intended long-term skin contact (longer than 30s)
Category 2	Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or repeated short-term skin contact
Category 3	Materials which not covered by category 1 or 2 with foreseeable skin contact up to 30 seconds (short term skin contact)



**Test Report**

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Tests Conducted

11 Polycyclic Aromatic Hydrocarbons (PAHs) Content

With reference to AfPS GS 2014:01 PAK (PAH), PAHs content was determined by Gas Chromatography-Mass Spectrometry (GC-MS).

Compound	CAS No.	Result (mg/kg) $\theta$	Reporting limit (mg/kg)	Limit (mg/kg)
		Tested component		
		(1)to(11)		
Benzo[a]anthracene	56-55-3	ND	0.2	0.5
Chrysene	218-01-9	ND	0.2	0.5
Benzo[b]fluoranthene	205-99-2	ND	0.2	0.5
Benzo[k]fluoranthene	207-08-9	ND	0.2	0.5
Benzo[a]pyrene	50-32-8	ND	0.2	0.5
Dibenzo[a,h]anthracene	53-70-3	ND	0.2	0.5
Benzo[j]fluoranthene	205-82-3	ND	0.2	0.5
Benzo[e]pyrene	192-97-2	ND	0.2	0.5

ND = Not detected (less than reporting limit)  
 $\theta$  = Single result for each test component/group

Tested Component(s): See component list in the last section of this report

12 Short Chain Chlorinated Paraffins (C10 - C13) (SCCP) Content

Solvent extraction method was used, Short Chain Chlorinated Paraffin (C10 - C13) (SCCP) content was determined by Gas Chromatography-Mass Spectrometry (GC-MS).

Test item	Cas No.	Result (%) $\theta$	Reporting limit (%)
		Tested component	
		(1+2),(3),(4+5+6),(7+8+9), (10+11),(12)to(14),(17), (18+19),(20+21),(22+23)	
Short Chain Chlorinated Paraffins (C10 - C13) (SCCP)	85535-84-8	ND	0.005

Requirement:  
 Short Chain Chlorinated Paraffin's concentration should be lower than 0.15% in articles under Annex I Part A of the Regulation (EU) No. 2019/1021 on persistent organic pollutants (POPs).

ND = Not detected (less than reporting limit)  
 $\theta$  = Single result for each test component/group

Tested Component(s): See component list in the last section of this report



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Tests Conducted

13 (I ) SVHC Testing Results

By Inductively Coupled Plasma Optical Emission Spectrometry, Ion Chromatography, UV-Visible Spectrophotometry, Gas Chromatographic - Mass Spectrometry, Liquid Chromatographic / Tandem Mass Spectrometer and High Performance Liquid Chromatography analysis.

Chemical Substance	Results ^ % (w/w)	
	Tested groups	All Products
Tested SVHCs in Chemical list	ND	ND

SVHC = Substance of very high concern

ND = Not detected (less than reporting limit)

Reporting limit = 0.010%

^ = Results were based on composite testing of components

Tested SVHC Chemical list:

	Chemical Substance	CAS No.		Chemical Substance	CAS No.
1	Cobalt Dichloride Δ	7646-79-9	2	Diarsenic Pentaoxide Δ	1303-28-2
3	Diarsenic Trioxide Δ	1327-53-3	4	Lead Hydrogen Arsenate Δ	7784-40-9
5	Triethyl Arsenate Δ	15606-95-8	6	Sodium Dichromate Δ	7789-12-0, 10588-01-9
7	Bis (Tributyltin) Oxide (TBTO) Δ	56-35-9	8	Anthracene	120-12-7
9	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	10	Hexabromocyclododecane (HBCDD) and All Major Diastereoisomers Identified (α-HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-50-6, 134237-51-7, 134237-52-8)
11	5-Tert-Butyl-2,4,6-Trinitro-m-Xylene (Musk Xylene)	81-15-2	12	Bis (2-Ethylhexyl) Phthalate (DEHP)	117-81-7
13	Dibutyl Phthalate (DBP)	84-74-2	14	Benzyl Butyl Phthalate (BBP)	85-68-7
15	Short Chain Chlorinated Paraffins (C <sub>10-13</sub> )	85535-84-8	16	Lead Chromate Δ	7758-97-6
17	Lead Chromate Molybdate Sulphate Red (C.I. Pigment Red 104) Δ	12656-85-8	18	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) Δ	1344-37-2
19	Tris (2-Chloroethyl) Phosphate	115-96-8	20	2,4-Dinitrotoluene	121-14-2
21	Diisobutyl	84-69-5	22	Coal Tar Pitch, High	65996-93-2



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Tests Conducted

	Phthalate (DIBP)			Temperature	
23	Anthracene Oil	90640-80-5	24	Anthracene Oil, Anthracene Paste, Distn. Lights	91995-17-4
25	Anthracene Oil, Anthracene Paste, Anthracene Fraction	91995-15-2	26	Anthracene Oil, Anthracene-low	90640-82-7
27	Anthracene Oil, Anthracene Paste	90640-81-6	28	Acrylamide	79-06-1
29	Boric Acid Δ	10043-35-3, 11113-50-1	30	Disodium Tetraborate, Anhydrous Δ	1330-43-4, 12179-04-3, 1303-96-4
31	Tetraboron Disodium Heptaoxide, Hydrate Δ	12267-73-1	32	Sodium Chromate Δ	7775-11-3
33	Potassium Chromate Δ	7789-00-6	34	Ammonium Dichromate Δ	7789-09-5
35	Potassium Dichromate Δ	7778-50-9	36	Trichloroethylene	79-01-6
37	2-Methoxyethanol	109-86-4	38	2-Ethoxyethanol	110-80-5
39	Cobalt Sulphate Δ	10124-43-3	40	Cobalt Dinitrate Δ	10141-05-6
41	Cobalt Carbonate Δ	513-79-1	42	Cobalt Diacetate Δ	71-48-7
43	Chromium Trioxide Δ	1333-82-0	44	Chromic Acid Δ Dichromic Acid Δ Oligomers of Chromic Acid and Dichromic Acid Δ	7738-94-5 13530-68-2 --
45	Strontium ChromateΔ	7789-06-2	46	2-ethoxyethyl acetate (2-EEA)	111-15-9
47	1,2-Benzenedicarboxylic acid, di-C <sub>7-11</sub> -branched and linear alkyl esters (DHNUP)	68515-42-4	48	Hydrazine	7803-57-8 302-01-2
49	1-methyl-2-pyrrolidone	872-50-4	50	1,2,3-trichloropropane	96-18-4
51	1,2-Benzenedicarboxylic acid, di-C <sub>6-8</sub> -branched alkyl esters, C <sub>7</sub> -rich (DIHP)	71888-89-6	52	Lead dipicrateΔ	6477-64-1
53	Lead styphnateΔ	15245-44-0	54	Lead azide; Lead diazideΔ	13424-46-9
55	Phenolphthalein	77-09-8	56	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4
57	N,N-dimethylacetamide (DMAC)	127-19-5	58	Trilead diarsenateΔ	3687-31-8
59	Calcium arsenateΔ	7778-44-1	60	Arsenic acidΔ	7778-39-4
61	Bis(2-methoxyethyl) ether	111-96-6	62	1,2-Dichloroethane	107-06-2



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63	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	64	2-Methoxyaniline; o-Anisidine	90-04-0
65	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	66	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4
67	Pentazinc chromate octahydroxide $\Delta$	49663-84-5	68	Potassium hydroxyoctaoxidizincate di-chromate $\Delta$	11103-86-9
69	Dichromium tris(chromate) $\Delta$	24613-89-6	70	Aluminosilicate Refractory Ceramic Fibres $\Delta$	(Index No. 650-017-00-8)
71	Zirconia Aluminosilicate Refractory Ceramic Fibres $\Delta$	(Index No. 650-017-00-8)	72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	74	Diboron trioxide $\Delta$	1303-86-2
75	Formamide	75-12-7	76	Lead(II) bis(methanesulfonate) $\Delta$	17570-76-2
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	78	$\beta$ -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6
79	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	90-94-8	80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with $\geq$ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) [with $\geq$ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5
83	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq$ 0.1% of Michler's ketone]	6786-83-0	84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with $\geq$ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1



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Tests Conducted

	(EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]				
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	86	Pentacosafuorotridecanoic acid	72629-94-8
87	Tricosafuorododecanoic acid	307-55-1	88	Henicosafuoroundecanoic acid	2058-94-8
89	Heptacosafuorotetradecanoic acid	376-06-7	90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3
91	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].	85-42-7 13149-00-3 14166-21-3	92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--	94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	--
95	Methoxyacetic acid	625-45-6	96	N,N-dimethylformamide	68-12-2



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Tests Conducted

97	Dibutyltin dichloride (DBTC) Δ	683-18-1	98	Lead monoxide (Lead oxide) Δ	1317-36-8
99	Orange lead (Lead tetroxide) Δ	1314-41-6	100	Lead bis(tetrafluoroborate) Δ	13814-96-5
101	Trilead bis(carbonate)dihydroxide Δ	1319-46-6	102	Lead titanium trioxideΔ	12060-00-3
103	Lead titanium zirconium oxideΔ	12626-81-2	104	Silicic acid, lead salt Δ	11120-22-2
105	Silicic acid (H <sub>2</sub> SiO <sub>5</sub> ), barium salt (1:1), lead-dopedΔ  [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	106	1-bromopropane (n-propyl bromide)	106-94-5
107	Methyloxirane (Propylene oxide)	75-56-9	108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
109	Diisopentylphthalate (DIPP)	605-50-5	110	N-pentylisopentylphthalate	776297-69-9
111	1,2-diethoxyethane	629-14-1	112	Acetic acid, lead salt, basicΔ	51404-69-4
113	Lead oxide sulfateΔ	12036-76-9	114	[Phthalato(2-)]dioxotrileadΔ	69011-06-9
115	Dioxobis(stearato)trileadΔ	12578-12-0	116	Fatty acids, C16-18, lead saltsΔ	91031-62-8
117	Lead cyanamidateΔ	20837-86-9	118	Lead dinitrateΔ	10099-74-8
119	Pentalead tetraoxide sulphateΔ	12065-90-6	120	Pyrochlore, antimony lead yellowΔ	8012-00-8
121	Sulfurous acid, lead salt, dibasicΔ	62229-08-7	122	TetraethylleadΔ	78-00-2
123	Tetralead trioxide sulphateΔ	12202-17-4	124	Trilead dioxide phosphonateΔ	12141-20-7
125	Furan	110-00-9	126	Diethyl sulphate	64-67-5
127	Dimethyl sulphate	77-78-1	128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2
129	Dinoseb (6-sec-butyl-2,4-	88-85-7	130	4,4'-methylenedi-ortho-toluidine	838-88-0



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Tests Conducted

	dinitrophenol)				
131	4,4'-oxydianiline and its salts	101-80-4	132	4-aminoazobenzene	60-09-3
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	134	6-methoxy-m-toluidine (p-cresidine)	120-71-8
135	Biphenyl-4-ylamine	92-67-1	136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3
137	o-toluidine	95-53-4	138	N-methylacetamide	79-16-3
139	Cadmium $\Delta$	7440-43-9	140	Cadmium oxide $\Delta$	1306-19-0
141	Dipentyl phthalate (DPP)	131-18-0	142	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	--
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1
145	Cadmium sulphide $\Delta$	1306-23-6	146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0
147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	148	Dihexyl phthalate (DnHP)	84-75-3
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	150	Lead di(acetate) $\Delta$	301-04-2
151	Trixylyl phosphate	25155-23-1	152	1,2-	68515-50-4



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Tests Conducted

				Benzenedicarboxylic acid, dihexyl ester, branched and linear (Diisohexyl phthalate(DIHP))	
153	Cadmium chloride $\Delta$	10108-64-2	154	Sodium perborate; perboric acid, sodium salt $\Delta$	--
155	Sodium peroxometaborate $\Delta$	7632-04-4	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1
157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1
159	Cadmium fluoride $\Delta$	7790-79-6	160	Cadmium sulphate $\Delta$	10124-36-4; 31119-53-6
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	15571-58-1; 27107-89-7	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	117933-89-8	164	Nitrobenzene	98-95-3
165	2,4-di-tert-butyl-6-(5-	3864-99-1	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-	36437-37-3



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	chlorobenzotriazol-2-yl)phenol (UV-327)			butyl)phenol (UV-350)	
167	1,3-propanesultone	1120-71-4	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4
169	Benzo[def]chrysen e (Benzo[a]pyrene)	50-32-8	170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	172	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--
173	p-(1,1 dimethylpropyl)phenol	80-46-6	174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4
175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	13560-89-9 ; 135821-74-8 ; 135821-03-3	176	Benz[a]anthracene	56-55-3
177	Cadmium nitrate $\Delta$	10325-94-7	178	Cadmium carbonate $\Delta$	513-78-0
179	Cadmium hydroxide $\Delta$	21041-95-2	180	Chrysene	218-01-9
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and	--	182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride, TMA)	552-30-7



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	linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]				
183	Dicyclohexyl phthalate (DCHP)	84-61-7	184	Octamethylcyclotetrasiloxane (D4)	556-67-2
185	Decamethylcyclotetrasiloxane (D5)	541-02-6	186	Dodecamethylcyclohexasiloxane (D6)	540-97-6
187	Lead	7439-92-1	188	Disodium octaborate $\Delta$	12008-41-2
189	Benzo[ghi]perylene	191-24-2	190	Terphenyl hydrogenate	61788-32-7
191	Ethylenediamine (EDA)	107-15-3	192	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	194	Benzo[k]fluoranthene	207-08-9
195	Fluoranthene	206-44-0	196	Phenanthrene	85-01-8
197	Pyrene	129-00-0	198	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	--
199	4-tert-butylphenol (PTBP)	98-54-4	200	2-methoxyethyl acetate	110-49-6
201	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	--			

$\Delta$  = Determination was based on elemental analysis. The content was calculated based on assumption of worst-case.



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Notes:

Substances of very high concern (SVHC) are classified as:

Carcinogenic, mutagenic or toxic to reproduction category 1 (proven on humans) and category 2 (proven on animals)

Persistent, bioaccumulative and toxic chemicals (PBT)

Very persistent and very bioaccumulative chemicals (vPvB)

Other similar substances such as endocrine disrupters

If the imported or manufactured volume of each individual SVHC in article is more than 0.1% (w/w) and if it exceeds 1 tonne per year across all product ranges, then importer or manufacturer require notification to the European Chemical Agency (ECHA). For substances included in the Candidate List on or after 1 December 2010, the notifications have to be submitted no later than 6 months after the inclusion. The following information has to be submitted for notification:

Identification of the registrant and the substance

Classification and labelling of the substance

Description of use of the substance and the article

Registration number, if available

Tonnage range

REACH requirement:

As per article 33(1) of regulation (EC) No. 1907/2006 (REACH), recipients of product must be provided with information of safe use if any of the tested substances (SVHC) exceeded 0.1% (w/w). A product meets the requirement of article 33(1) by default when no SVHC exceeds 0.1% (w/w).

As per Court of the European Union Judgment in Case C-106/14, press release No 100/15 dated 10 September 2015, each of the articles incorporated as a component of a complex product is covered by the relevant duties to notify and provide information when they contain a substance of very high concern in a concentration above 0.1% of their mass.



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14 EU Safety Assessment Report

Applicant Name:	STEPHEN GOULD CORPORATION
Address:	E702, HUABAO NO.1 BUILDING, NO.29 JINHUA ROAD, FUTIAN FTZ SHENZHEN, 518045, CHINA
Contact Person:	RAIN LEI

**Sample Description**

Item name:	OSMO SUPER STUDIO FROZEN GAME & FROZEN KIT.		Identification:	902-00012 & 902-00016	
Manufacturer Name:	STEPHEN GOULD CORPORATION				
Product Description:	The products are Osmo Base for iPad, super sketchpad super studio makers and super sweeper. They belong the class of Drawing sets. Product 902-00012's dimensions are 23.5x16.5x2.5mm mass is 270g. Product 902-00016's dimensions are 24.4x16.4x9mm, mass is 654g. Children must play these toys with an iPad				
General Function:	A drawing sets which were play with iPad and learn how to draw pictures.				
Assembly / usage instruction:	Yes	Package provided:	Yes	Labeled Age:	Age 5+
Age grading:	<p>Classification of Toy: Drawing set. Appropriate Age grade: Over 5 years.</p> <p>According to ISO/TR 8124-8:2016, Safety of Toys - Part 8: Age Determination Guidelines in this age group they like to perform role-playing activities of moderate to high complexity for longer periods, imitate adult activities, and have active imagination. Like realistic materials for creations and prefer true stories. Develop and maintain close friendships and demonstrate a high level of dramatization. Draw human characters with up to seven parts of the body at age 4, and approximately nine parts at age 5. Are capable of copying geometrical forms, and letters and numbers. They can handle most simple manual tasks, and are able to cut along a trimming line. Artistic creations now make sense and meet their expectations. They exhibit well developed eye-hand coordination. Start mastering electronic devices and understand the user interface used by software products. Navigate the Internet, but one page at time.</p>				

**Assessment Requested**

As per Article 18 of the EU directive 2009/48/EC on the safety of toys, with specific evaluation on the hazards (in accordance with Annex II Particular Safety Requirements) and assessment of the potential exposure of such hazards.



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**Notes:** This assessment is based on a review of the sample and the information and documentation supplied. It reflects the current state of knowledge of the product, and the hazards and risk information available today. The assessment should be updated if the product or materials are changed or new documentation becomes available.

### Physical and Mechanical and Flammability

#### Relevant Directives, Regulations and Standards

Applicable New Approach Directives	
2009/48/EC	Safety of toys
Applicable harmonized safety standards	
EN71-1:2014+A1:2018	Safety of Toys – Mechanical and physical properties
EN71-2:2011+A1:2014	Safety of Toys – Flammability
Applicable non-harmonized safety standards	

#### Specific warnings and indications of precautions

General warning requirements	
<p>The manufacturer shall mark the warnings in a clearly visible, easily legible and understandable and accurate manner on the packaging and, if appropriate, on the instructions for use which accompany the toy. The warnings shall be preceded by the words 'Warning'. The warning shall appear on the consumer packaging or be otherwise clearly visible to the consumer before the purchase, including in cases where the purchase is made on-line. It shall be in a language that is easily understood by consumers.</p> <p>Warnings on toys shall not be misleading or incorrect. Toys intended for children under 36 months shall comply with the requirements in Clause 5 of EN71-1: 2014+A1:2018. A warning on a toy or its <i>packaging</i> does not release the manufacturer or his authorized representative from the obligation to meet these requirements. A toy shall not bear a warning that conflicts with the intended use of the toy, as determined by virtue of its function, dimension and characteristics.</p> <p>Affixing of the CE marking which can be seen at point of sale; Conformity marking, batch or model number to the toy or its packaging; Name and address onto toy or packaging.</p>	
Warnings and indications of precautions on physical properties	
Clause 7.2 of EN71-1:2014 + A1:2018	Age warning with indication of Small part. Choking hazard due to small part.
Additional labelling for French Market	
<p>In the French Decree n° 2010-166 of February 22, 2010 relating to the Safety of the Toys Article 4, it states that: Les avertissements sont précédés de la mention : « Attention ! », qui peut, si plusieurs avertissements sont nécessaires, figurer une seule fois avant l'ensemble des avertissements. (Warnings are preceded by the wording « <b>Attention !</b> » which can, if several warnings are needed, be shown only once for all the warnings.)</p> <div style="text-align: center;">  <p>Attention !</p> </div> <p>Therefore, the word "Warning" or "Warnings" shall be followed by punctuation, an exclamation mark and symbol are preceded by the wording « <b>Attention !</b> » as above.</p>	



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**Safety Assessment - Potential Hazards and Recommendation**

Hazards Classification	Potential hazards needing further evaluation	Injury Scenario / Rationale	Comment
Physical and Mechanical	Nil	Physical and Mechanical hazards would be addressed by EN71-1	Low risk
Flammability	Nil	Flammability hazards would be addressed by EN71-2.	Low risk

**Reference document:**

• ISO/IEC Guide 50, Safety aspects -- Guidelines for child safety.	
• CEN Report CR 13387:1999, Child use and care articles — General and common safety guidelines	
• Child data — The handbook of child measurements and capabilities. UK Department of Trade and Industry (DTI), 1995	
• ISO/TR 8124-8:2016 Safety Of Toys - Part 8: Age Determination Guidelines	
• European Commission (2009) and EC Guidance document No. 11 on the application of the directive of the safety of toys (2009)	
• CPSC age determination guidelines	
• Risk Assessment Guidelines for non-food Consumer Products under the General Product Safety Directive 2001/95/EC	
• RAPEX recall case	

15 EU Safety Assessment on Chemical and Hygiene properties

**Relevant Directives, Regulations and Standards**

<b>Applicable New Approach Directives</b>	
2009/48/EC and amendments	Safety of toys
<b>Applicable directives based on the principles of the New Approach or the Global Approach</b>	
94/62/EC	Packaging and packaging waste
<b>Other standards, receptive directives and regulations</b>	
EC No 1907/2006	Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII Item 23 - Cadmium
EC No 1907/2006	Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII Item 43 - Azocolourants and Azodyes
EC No 1907/2006	Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII Item 50 - Polycyclic-aromatic hydrocarbons (PAHs)
EC No 1907/2006	Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII Item 51 and amendment - DEHP, DBP, BBP, DIBP
EC No 1907/2006	Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Annex XVII Item 52 - DINP, DIDP, DNOP
<b>Applicable harmonized safety standards</b>	
EN71-3:2013+A3:2018	Safety of toys – Migration of certain elements
<b>Applicable non-harmonized safety standards</b>	
EN71-9:2005+A1:2007	Safety of toys – Part 9: Organic chemical compounds - requirements



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**Safety Assessment - Potential Hazards and Recommendation**

Hazards Classification	Potential hazards needing further evaluation	Injury Scenario / Rationale	Comment
Chemical *	Toxicity (toxic or irritating substance and CMR)	Child may ingest the substance release from the toy product. e.g. substance gets onto skin then bring into mouth.	See #C1-6
Hygiene	Microbiological Contamination	Child may ingest the substance released from the toy product, e.g. substance gets onto skin.	see #C3

\* = This assessment was solely based on the information provided by the applicant. Manufacturer should ensure that no other hazardous substance not disclosed in the documentation was used in the production of the toy.

**Chemical and Hygiene Hazard Analysis**

No.	Details			
	Product	Accessible Materials	Available Information for Analysis* <sup>1</sup>	Chemical Hazard Evaluation
#C1	- Osmo Super Studio Frozen Game & Frozen Kit.	- Plastics	Bill-of-materials (BOM) of component(s)	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM. c. Other potential chemical hazard requiring further risk assessment: - None foreseen
#C2	- Osmo Super Studio Frozen Game & Frozen Kit.	- Coatings	Bill-of-materials (BOM) of component(s)	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM. c. Other potential chemical hazard requiring further risk assessment: - None foreseen - The risk aroused from exposure to organic chemicals content in coating is considered low due to the coating weight with respect to the entire toy component.
#C3	- Osmo Super Studio Frozen Game & Frozen Kit.	- liquid	Bill-of-materials (BOM) of component(s)  Toxicological Risk Assessments (TRA) report  Microbiological Examination report	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM. c. Other potential chemical hazard requiring further risk assessment: - The formulated product is considered as low risk to the majority of users according to the conditions listed in the Toxicological Risk Assessment report - The risk aroused from the liquid of ink is considered as low according to the Microbiological Examination report provided.



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Tests Conducted

No.	Details			Chemical Hazard Evaluation
	Product	Accessible Materials	Available Information for Analysis* <sup>1</sup>	
#C4	- Osmo Super Studio Frozen Game & Frozen Kit.	- paper	Bill-of-materials (BOM) of component(s)  Safety Data Sheets (SDS)	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM/SDS. c. Other potential chemical hazard requiring further risk assessment: - None foreseen
#C5	- Osmo Super Studio Frozen Game & Frozen Kit.	- Fabric	Bill-of-materials (BOM) of component(s)	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM. c. Other potential chemical hazard requiring further risk assessment: - None foreseen
#C6	- Osmo Super Studio Frozen Game & Frozen Kit.	- glass	Bill-of-materials (BOM) of component(s)	a. Major chemical concerns would be addressed by the applicable standards and tests mentioned in previous section. b. No foreseeable concern on chemical hazard was noted based on the review of the BOM. c. Other potential chemical hazard requiring further risk assessment: - None foreseen

\*<sup>1</sup> Only information useful for analysis was stated in the table.

**Reference document:**

1. ISO/IEC Guide 50, Safety aspects -- Guidelines for child safety
2. CEN Report CR 13387:1999, Child use and care articles — General and common safety guidelines
3. Child data — The handbook of child measurements and capabilities. UK Department of Trade and Industry (DTI), 1995
4. CR14379 Classification of toys
5. European Commission (2009) and EC Guidance document No. 11 on the application of the directive of the safety of toys (2009)
6. CPSC age determination guidelines
7. Risk Assessment Guidelines for non-food Consumer Products under the General Product Safety Directive 2001/95/EC
8. RAPEX recall case
9. EN 60825-1:1994 + A1:2002 + A2:2001 Safety of laser products Part 1: Equipment classification, requirements and user's guide
10. EN62115:2005+A11:2012
11. Bill of materials (BOM), Safety Data Sheets (SDS), Toxicological Risk Assessments (TRA) report, Microbiological Examination report provided



## Test Report

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### Tests Conducted

#### Component list:

- (1) Coatings on paper sheet (warning note of Sketchpad).
- (2) @Coatings(white, grey, red ,blue, yellow)on plastic/metal (board holder, Osmo base for ipad, pattern on barrel of Marker, spring on drawing Sketchpad).
- (3) Dark blue ink (both markers).
- (4) White paper card with transparent plastic film and inaccessible coatings (cover, pages of Sketchpad).
- (5) Transparent blue plastic (front cap of Marker).
- (6) Blue plastic (end stopper of Marker)(sample weight: 66.6 mg).
- (7) White plastic (barrel of Marker).
- (8) Bright red plastic (board holder).
- (9) Red plastic (board holder).
- (10) White plastic (main body of Osmo base for ipad).
- (11) Grey/white soft plastic (Osmo base for ipad).
- (12) White felt excluding ink (point of Marker).
- (13) White satin with black printing (sewn-in label on Sweeper).
- (14) Light blue terry (sweeper).
- (15) Transparent glass (mirror of board holder).
- (16) White paper sheet excluding coating (warning note of Sketchpad) (sample weight: 66.6mg).
- (17) White paper sheet with coatings (warning note of Sketchpad).
- (18) Black foam (fastener of board holder).
- (19) Transparent grey plastic label with black material (inner mirror).
- (20) Red plastic with white coating (board holder).
- (21) White plastic with grey coating (Osmo base for ipad).
- (22) White plastic with multicolor coatings (pattern on barrel of Marker).
- (23) Silver color metal with white coating (spring on drawing Sketchpad).
- (24) Silver color metal excluding coating (spring on drawing Sketchpad).
- (25) Transparent coating on plastic (surface on color box).
- (26) White paper card with transparent plastic film and inaccessible coatings (color box).
- (27) Transparent blister plastic (holder).
- (28) Transparent plastic film (surface of Osmo base for ipad).
- (29) Pure white paper card with transparent plastic film and inaccessible red coating(holder ).
- (30) White paper card with transparent plastic film and inaccessible red coating (box).
- (31) Brown corrugated board (inner box).
- (32) White/brown corrugated board (insert card)
- (33) White paper sheet with red printing (instruction)

@: Since the sample weight of the component was less than 10 mg, soluble heavy metal analysis was not applicable.

The sample weight in bracket(s) was for soluble toxic elements analysis only.

\*\*\*\*\*

End of report

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