Test Report No. 7191182151
Report Date: March 29, 2018

PSB Singapore

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Client	:	THAICOLOR CLAY CO., LTD. / TCC MARKETING CO., LTD. [FOR EXPORT] 175/1 MOO 1 KAERAI KRATHUMBAN SAMUTHSAKORN, 74110 THAILAND ATTN: MS. KOTCHAKORN P.
Test Sample	:	RECEIVED ON 13/03/2018
Test Period	:	FROM 13/03/2018 TO 29/03/2018
Sample Description	:	MODELLING CLAY 24 NEON COLORS IN CARDBOARD BOX
Color	:	/
Product Type/ End Use	:	/
Model/Style	:	/
SKU No.:	:	SK-T500/24CN
Country of Destination	:	EUROPE / USA
Country of Origin	:	THAILAND
Manufacturer	:	THAICOLOR CLAY CO., LTD.

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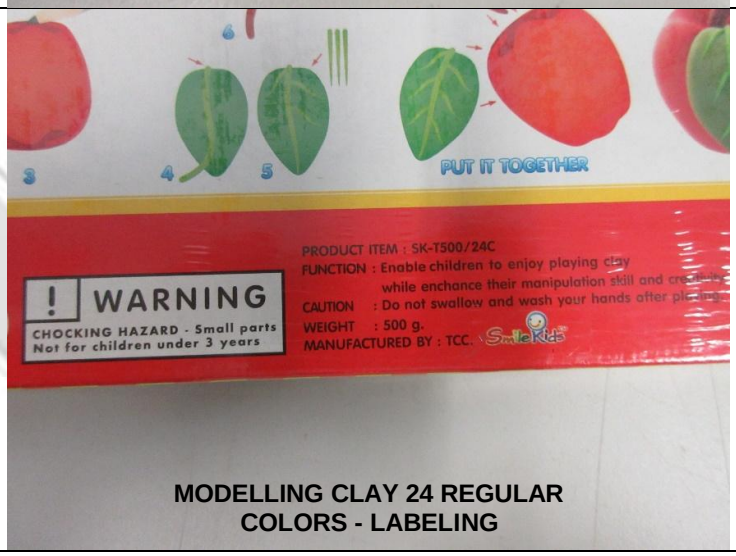
SAMPLE PHOTO	 **MODELLING CLAY 24 REGULAR COLORS**  **MODELLING CLAY 24 REGULAR COLORS - PACKAGING**

SAMPLE PHOTO	 **MODELLING CLAY 24 REGULAR COLORS - LABELING**  **MODELLING CLAY 24 REGULAR COLORS - LABELING**

SAMPLE PHOTO	 **MODELLING CLAY 24 REGULAR COLORS - LABELING**  **MODELLING CLAY 24 REGULAR COLORS - LABELING**

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SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
MECHANICAL HAZARDS (EN 71 PART 1)	PASS	EU
FLAMMABILITY (EN 71 PART 2)	PASS	EU
MIGRATION OF CERTAIN ELEMENTS (EN 71 PART 3)	PASS	EU
COLOURANTS CONTENT (EN 71 PART 9)	PASS	EU
PRESERVATIVES CONTENT (EN 71 PART 9)	PASS	EU
PRIMARY AROMATIC AMINES CONTENT (EN 71 PART 9)	PASS	EU
PAHS	PASS	EU
PHTHALATES CONTENT (DEHP, DBP, BBP, DINP, DIDP, DNOP)	PASS	EU
CADMIUM CONTENT	PASS	EU
MECHANICAL HAZARDS (ASTM F963)	PASS	USA
FLAMMABILITY OF SOLIDS	PASS	USA
TOTAL HEAVY METAL CONTENTS (ASTM F963)	PASS	USA
LEAD CONTENT SUBSTRATE (CPSIA)	PASS	USA
PHTHALATES CONTENT IN MODELLING CLAY (DNHP)	PASS	USA
PHTHALATES CONTENT (CPSIA)	PASS	USA

For any concern or technical Inquiries, please contact

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APPROVED BY:

KOO CHIEH VOON
HARDLINE PRODUCT MANAGER

DESCRIPTION	SAMPLE PHOTO
SAMPLE 1: NEON MAGENTA SAMPLE 2: NEON CARROT SAMPLE 3: NEON PERSIAN BLUE SAMPLE 4: NEON MIDDLE RED PURPLE SAMPLE 5: NEON GOLDEN YELLOW SAMPLE 6: NEON RED VIOLET SAMPLE 7: NEON JUNGLE GREEN SAMPLE 8: NEON PEACH ORANGE SAMPLE 9: NEON MEDIUM VIOLET SAMPLE 10: NEON SHOCKING PINK SAMPLE 11: NEON PINE GREEN SAMPLE 12: NEON ORANGE PEEL SAMPLE 13: NEON LAVENDER SAMPLE 14: NEON LEMON SAMPLE 15: NEON CHERRY PINK SAMPLE 16: NEON NAVY BLUE SAMPLE 17: NEON ORANGE PINK SAMPLE 18: NEON GREEN APPLE SAMPLE 19: NEON DEEP MAGENTA SAMPLE 20: NEON BLUE VIOLET SAMPLE 21: NEON RED ORANGE SAMPLE 22: NEON LIME GREEN SAMPLE 23: NEON RAZZMATAZZ SAMPLE 24: NEON RADICAL RED	

TEST RESULTS:

MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2014)

Subclause	Requirement	Result
4.1	Material cleanliness	M
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy Bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7 & 7.6	Edges	M
4.8 & 7.6	Points and metallic wires	NA
4.8e	Splinters	M
4.9	Protruding parts	NA
4.10.1	Folding and sliding mechanisms	NA
4.10.2	Driving mechanisms	NA
4.10.3	Hinges	NA
4.10.4	Springs	NA
4.11	Mouth actuated toys and other toys intended to be put in the mouth	NA
4.12 & 7.3	Balloons	NA
4.13 & 7.9	Cord of toy kites and other flying toys	NA
4.14.1	Toys which a child can enter	NA
4.14.2 & 7.8	Masks and helmets	NA
4.15.1	Toys propelled by child	
4.15.1.2 & 7.10.1 & 7.10.2 & 7.10.3 & 7.10.4 & 7.16	Toys propelled by child – Instructions for use	NA
4.15.1.3	Toys propelled by child – Strength	NA
4.15.1.4	Toys propelled by child – Stability	NA
4.15.1.5	Toys propelled by child – Braking	NA
4.15.1.6	Toys propelled by child - Transmission	NA
4.15.1.7	Toys propelled by child – insertion mark	NA
4.15.1.8	Electrically-driven ride-on toys	NA
4.15.2	Toy bicycles	
4.15.2.2 & 7.15	Toy bicycles – Warnings and instructions for use	NA
4.15.2.3	Toy bicycles – Braking	NA
4.15.3 & 7.16 & 7.19	Rocking horses and similar toys	NA
4.15.4 & 7.16	Toys not propelled by child	NA
4.15.5 & 7.18	Toy scooters	NA
4.16	Heavy immobile toys	NA
4.17.1	Projectiles – General	NA
4.17.2	Projectiles toys without stored energy	NA
4.17.3 & 7.7	Projectile toys with stored energy	NA
4.17.4 & 7.7	Bows and arrows	NA
4.18 & 7.4	Aquatic toys and inflatable toys	NA
4.19 & 7.13 & 7.14	Percussion caps	NA

MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2014)

Subclause	Requirement	Result
*4.20.2.1-4.20.2.8, 4.20.2.10, 4.20.2.12	Acoustics	NA
4.20.2.9, 4.20.2.11 & 7.14	Acoustics – percussion toys & cap-firing toys	NA
4.21	Toys containing a non-electrical heat source	NA
4.22 & 7.2	Small balls	NA
4.23	Magnet	
4.23.2 a, b & c	Toy other than magnetic / electrical experimental sets intended for children over 8 years	NA
4.23.3 & 7.20	Magnetic / electrical experimental sets intended for children over 8 years	NA
4.24	Yo-yo ball	NA
4.25	Toys attached to food	NA
	FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	
5	Cleaning instruction for item intended for child under 3 years of age	NA
5.1	General	NA
5.1a	Small parts – as received	NA
5.1b	Small parts, sharp points, sharp edges – after tests	NA
5.1c	Cross section <2mm metal points & wires	NA
5.1e	Toys contain glue	NA
5.1f	Casing of toys	NA
5.2	Fillings, coverings and seams	NA
5.3	Adhesion of plastic sheeting	NA
5.4 &	Cords on toys	NA
5.4(a)	Cords connected to self-retraction mechanism or in pull along toys	NA
5.4(b) & 7.22	Cords and chains that can form tangled loop or noose	NA
5.4(c) & 7.22	Fixed loop of cords or chains	NA
5.4(d)	Nooses	NA
5.4(e)	Self-retraction mechanism	NA
5.4(f) & 7.11	Toy across cradle, cot or perambulator	NA
5.4(g) & 7.22	Cords and chains with free end (exclude pull along toy)	NA
5.4(h)	Cords and chains with free end on pull along toy	NA
5.4(i) & 7.21	Electrical cables	NA
5.5 & 7.12	Liquid filled toys	NA
5.6	Electrically driven toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size	NA
5.9 & 7.17	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
6	Packaging	NA
	WARNINGS, INSTRUCTIONS FOR USE	
7	CE Mark	M
7	Manufacturer name and address	NT

MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1 – 2014)

Subclause	Requirement	Result
7	Importer name and address	NT
7	Product Identification	M
7.1	General	NA
7.2	Toys not intended for children under 36 months	NA
7.5	Functional toys	NA

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section NR= Not Request
NT = Not Tested NP = Not Presented

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.3	8.25.1	4.14.2	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12	4.17.3	8.24.1	5.3	8.4.2.1, 8.25
4.5	8.5, 8.7, 8.11, 8.12	4.15.1.3	8.11, 8.12, 8.21, 8.22	4.17.4	8.24.2	5.4	8.20, 8.36, 8.38, 8.39, 8.40
4.6	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14	4.15.1.4	8.23.1	4.18	8.2, 8.3, 8.4.2.1	5.5	8.15
4.7	8.11	4.15.1.5	8.26.1	4.20	8.28	5.6	8.29
4.8	8.12, 8.13	4.15.1.8	8.29	4.21	8.30	5.8	8.16
4.9	8.4.2.3, 8.11, 8.12	4.15.2.4	8.26.2	4.22	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32	5.10	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32
4.10.1	8.18.2, 8.18.3	4.15.3	8.21, 8.23.1	4.23	8.2, 8.3, 8.4.2.1, 8.4.2.2, 8.5, 8.6, 8.7, 8.8, 8.34, 8.35	5.11	8.33
4.10.2	8.5, 8.6, 8.7, 8.11, 8.12	4.15.4	8.21, 8.23.1	4.24	8.37	5.12	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9,
4.11	8.2, 8.3, 8.4.2.1, 8.9, 8.17	4.15.5	8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27	4.25	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1	5.13	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32
4.13	8.19	4.16	8.23.2	5.1	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12		
4.14.1	8.31.1, 8.31.2	4.17.1	8.4.2.3				

TEST RESULT(S): (Continued)

FLAMMABILITY (EN 71 PART 2: 2011 + A1: 2014)

Subclause	Requirement	Result
4.1	Cellulose nitrate	NP
4.1	Surface flash on a piled surface	NA
*4.1	Flammable gases	NA
*4.1	Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels	NA
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by child in play	NA
4.3	warning on product and packaging (10 - 30 mm/s)	NA
4.4	Toys intended to be entered by a child	NA
4.4	warning on product and packaging (10 – 30 mm/s)	NA
4.5	Soft-filled toys	NA

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.2.2	5.2	4.2.4	5.3	4.3	5.4	4.5	5.5
4.2.3	5.3	4.2.5	5.4	4.4	5.4	-	-

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section
NR= Not Request NT = Not Tested NP = Not Presented

Remark:

- The burn rate limitation is 30 mm/sec.

TEST RESULTS: (Continued)

Migration of Certain Elements - European Standard EN 71 Part 3: 2013 with Amendment A2: 2017

Test Method : European Standard EN 71 Part 3: 2013 with Amendment A2: 2017, Section 8.

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table		
	Type I	**Dry, brittle, powder-like or pliable toy material**
	Type II	**Liquid or sticky toy material**
	Type III	**Scraped-off toy material**

-	Unit	Req.	Result	
Test Item(s)	-	-	1	2
Type	-	I	I	I
Parameter	-	-	-	-
Mass of Trace Amount	g	-	-	-
Aluminium (Al)	mg/kg	5625	ND	ND
Antimony (Sb)	mg/kg	45	ND	ND
Arsenic (As)	mg/kg	3.8	ND	ND
Barium (Ba)	mg/kg	1500	ND	ND
Boron (B)	mg/kg	1200	ND	ND
Cadmium (Cd)	mg/kg	1.3	ND	ND
Chromium III (Cr III)	mg/kg	37.5	ND	ND
Chromium VI (Cr VI)	mg/kg	0.02	ND	ND
Cobalt (Co)	mg/kg	10.5	ND	ND
Copper (Cu)	mg/kg	622.5	ND	ND
Lead (Pb)	mg/kg	13.5	ND	ND
Manganese (Mn)	mg/kg	1200	ND	ND
Mercury (Hg)	mg/kg	7.5	ND	ND
Nickel (Ni)	mg/kg	75	ND	ND
Selenium (Se)	mg/kg	37.5	ND	ND
Strontium (Sr)	mg/kg	4500	ND	ND
Tin (Sn)	mg/kg	15000	ND	ND
Organic tin	mg/kg	0.9	ND	ND
Zinc (Zn)	mg/kg	3750	4.6	4.3
Conclusion	-	-	PASS	PASS

Note / Key :
ND = Not detected
NR = Not requested
">" = Greater than
g = gram(s)
Req. = Requirement
INCON. = Inconclusive
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
[ ] = Detection Limit by In House Ion Chromatography Analysis
{ } = Detection Limit by test method with reference to EN 71 Part 3: 2013 with Amendment A2: 2017, Annex G

Detection Limit (mg/kg) :
For Type I and Type II - Each (As, Cd, Cr III and Hg) : 0.15 ; Cr VI : 0.005 [0.002] ; Organic tin : 0.04 ; Pb : 0.5 ; Each (Others) : 2
For Type III - Cr III : 0.15 ; Cr VI : 0.15 [0.002] ; Each (Others) : 2

Remark :

- Results of Cr III and Cr VI were reported as sum of soluble chromium content unless further verified.
- Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.

TEST RESULTS: (Continued)

Colourants Content

Test Method : Extraction method with reference to EN71-10:2005, clause 8,
Analysis method with reference EN71-11:2005, clause 5.3

Test Item(s)	Item / Component Description(s)
1	Neon Magenta Modelling Clay
2	Neon Carrot Modelling Clay
3	Neon Persian Blue Modelling Clay
4	Neon Middle Red Purple Modelling Clay
5	Neon Golden Yellow Modelling Clay
6	Neon Red Violet Modelling Clay

Test Parameter	CAS No.	Result						
		1	2	3	4	5	6	Limit (mg/kg)
Disperse Blue 1	2475-45-8	ND	ND	ND	ND	ND	ND	10
Disperse Blue 3	2475-46-9	ND	ND	ND	ND	ND	ND	10
Disperse Blue 106	12223-01-7	ND	ND	ND	ND	ND	ND	10
Disperse Blue 124	61951-51-7	ND	ND	ND	ND	ND	ND	10
Disperse Yellow 3	2832-40-8	ND	ND	ND	ND	ND	ND	10
Disperse Orange 3	730-40-5	ND	ND	ND	ND	ND	ND	10
Disperse Orange 37/76	12223-33-5 13301-61-6	ND	ND	ND	ND	ND	ND	10
Disperse Red 1	2872-52-8	ND	ND	ND	ND	ND	ND	10
Solvent Yellow 1	60-09-3	ND	ND	ND	ND	ND	ND	10
Solvent Yellow 2	60-11-7	ND	ND	ND	ND	ND	ND	10
Solvent Yellow 3	97-56-3	ND	ND	ND	ND	ND	ND	10
Basic Red 9	569-61-9	ND	ND	ND	ND	ND	ND	10
Basic Violet 1	8004-87-3	ND	ND	ND	ND	ND	ND	10
Basic Violet 3	548-62-9	ND	ND	ND	ND	ND	ND	10
Acid Red 26	3761-53-3	ND	ND	ND	ND	ND	ND	10
Acid Violet 49	1694-09-3	ND	ND	ND	ND	ND	ND	10
Conclusion		PASS	PASS	PASS	PASS	PASS	PASS	

Note / Key :
ND = Not detected “>” = Greater than “<” = Less than
mg/kg = milligram(s) per kilogram
Detection Limit: 2.5 mg/kg
Limit is action limit quoted from EN71-11: 2005 clause 5.3.7

TEST RESULTS: (Continued)

Primary Aromatic Amines Content

Test Method : EN 71: Part 10:2005 and EN 71: Part 11: 2005

Test Item(s)	Item / Component Description(s)
1	Neon Magenta Modelling Clay
2	Neon Carrot Modelling Clay
3	Neon Persian Blue Modelling Clay
4	Neon Middle Red Purple Modelling Clay
5	Neon Golden Yellow Modelling Clay
6	Neon Red Violet Modelling Clay

Test Parameter	Primary Aromatic Amines
Maximum permissible limit	5 mg/kg

Sample ID	Detected Amine Number	Concentration (mg/kg)	Conclusion
1	ND	ND	PASS
2	ND	ND	PASS
3	ND	ND	PASS
4	ND	ND	PASS
5	ND	ND	PASS
6	ND	ND	PASS

Note / Key :
ND = Not detected “>” = Greater than “<” = Less than
mg/kg = milligram(s) per kilogram
Detection Limit: 5.0 mg/kg
Limit is action limit quoted from EN71-11:2005 clause 5.4.6
Amine No. = Refer to List of Banned Amines for the description of the detected Amine

LIST OF PRIMARY AROMATIC AMINES Specified Amines		
Number	Chemical Name	CAS Number
1	Benzidine	92-87-5
2	2-naphthylamine	91-59-8
3	4-chloroaniline	106-47-8
4	3,3’-dichlorobenzidine	91-94-1
5	3,3’-dimethoxylbenzidine	119-90-4
6	3,3’-dimethylbenzidine	119-93-7
7	o-toluidine	95-53-4
8	2-methoxyaniline	90-04-0
9	Aniline	62-53-3

TEST RESULTS: (Continued)

Preservatives (Other than wood preservatives) Content

Test Method : Extraction method with reference to EN71-10:2005, clause 8,
Analysis method with reference EN71-11:2005, clause 5.7

Test Item(s)	Item / Component Description(s)
1	Neon Magenta Modelling Clay
2	Neon Carrot Modelling Clay
3	Neon Persian Blue Modelling Clay
4	Neon Middle Red Purple Modelling Clay
5	Neon Golden Yellow Modelling Clay
6	Neon Red Violet Modelling Clay

	Test Parameter	CAS No.	Result						
			1	2	3	4	5	6	Maximum permisible Limit
1	Phenol	108-95-2	ND	ND	ND	ND	ND	ND	10 mg/kg
2	1,2-Benzylisothiazolin-3-one	2634-33-5	ND	ND	ND	ND	ND	ND	5 mg/kg
3	2-Methyl-4-isothiazolin-3-one	2682-20-4	ND	ND	ND	ND	ND	ND	10 mg/kg
4	5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	ND	ND	ND	ND	ND	ND	10 mg/kg
5	Sum of 2-Methyl-4-isothiazolin-3-one & 5-Chloro-2-methyl-4-isothiazolin-3-one	2682-20-4 26172-55-4	ND	ND	ND	ND	ND	ND	15 mg/kg
6	Formaldehyde	50-00-0	ND	ND	ND	ND	ND	ND	0.05%
	Conclusion		PASS	PASS	PASS	PASS	PASS	PASS	

Note / Key :
ND = Not detected ">" = Greater than "<" = Less than
mg/kg = milligram(s) per kilogram % = percentage by weight
Compounds 1-5 are determined by HPLC.
Compund 6 is determined by UV-Vis spectrophotometer
Limit compounds 1 and 2 are action limits quoted from EN71-11:2005 clause 5.5.2.6 and clause 5.7.7 respectively.
Limit for compounds 3-6 are quoted from EN71-9:2005+A1:2007 clause 4.1.1 Table 2H

TEST RESULTS: (Continued)

Polycyclic Aromatic Hydrocarbons (PAHs) Content - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII with its Latest Amendments, Entry 50, Point 5

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	1.0 mg/kg (Each of all listed PAHs)[a]

Test Item(s)	Result				Conclusion
	Test Method	Detected Analyte(s)	Conc.	Unit	
1	II	ND	ND	mg/kg	PASS
2	II	ND	ND	mg/kg	PASS

Note / Key :

ND = Not detected
">" = Greater than
Conc. = Concentration
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
% = percent
1 % = 10 000 mg/kg
Test Method I = Individual Testing
Test Method II = Composite Testing

Detection Limit (mg/kg) -
For individual testing - Each of the listed PAHs : 0.2
For composite testing - Each of the listed PAHs : 0.1

Remark :

- The list of polycyclic aromatic hyrdocarbons is summarized in table of Appendix.
- Rubber or plastic component(s) of articles that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity under normal or reasonably foreseeable conditions of use is (are) applicable to be tested. Articles include amongst others :
  - Sport equipment such as bicycles, golf clubs, racquets;
  - Household utensils, trolleys, walking frames;
  - Tools for domestic use;
  - Clothing, footwear, gloves and sportswear;
  - Watch-straps, wrist-bands, masks, head-bands
- [a] denotes as this maximum allowable limit applies to product(s) placed on the market for the first time on or after December 27, 2015 only.

APPENDIX

List of Polycyclic Aromatic Hydrocarbons
[European Parliament and Council Regulation EC No. 1907/2006, Annex XVII, Entry 50, Point 5] :

No.	Name of Analyte(s)	CAS-No.	No.	Name of Analyte(s)	CAS-No.
1	Benzo[a]pyrene (BaP)	50-32-8	5	Benzo[b]fluoranthene (BbFA)	205-99-2
2	Benzo[e]pyrene (BeP)	192-97-2	6	Benzo[j]fluoranthene (BjFA)	205-82-3
3	Benzo[a]anthracene (BaA)	56-55-3	7	Benzo[k]fluoranthene (BkFA)	207-08-9
4	Chrysene (CHR)	218-01-9	8	Dibenzo[a,h]anthracene (DBAhA)	53-70-3
	CAS-No. = Chemical Abstracts Service registry number				

TEST RESULTS: (Continued)

Phthalates Content in Toys and Childcare Articles - European Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with Amendments up to EC No. 494/2011, Annex XVII, Entry 51

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modeling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	0.1 % (Sum of all listed phthalates)

Tested Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
1	ND	ND	%	PASS
2	ND	ND	%	PASS

Note / Key :

ND = Not detected ">" = Greater than Conc. = Concentration
% = percent 1 % = 10 000 mg/kg
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit (%): Each 0.005

Remark :

- The list of phthalates is summarized in table of Appendix.

APPENDIX

List of Phthalates [European Regulation EC No. 1907/2006, Annex XVII, Entry 51]:					
No.	**Name of Analytes**	**CAS-No. [EC No.]**	**No.**	**Name of Analytes**	**CAS-No. [EC No.]**
1	Butyl benzyl phthalate (BBP)	85-68-7 [201-622-7]	4	Di-iso-nonyl phthalate (DINP)	28553-12-0 & 68515-48-0 [249-079-5 & 271-090-9]
2	Dibutyl phthalate (DBP)	84-74-2 [201-557-4]	5	Di-n-octyl phthalate (DNOP)	117-84-0 [204-214-7]
3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7 [204-211-0]	6	Di-iso-decyl phthalate (DIDP)	26761-40-0 & 68515-49-1 [247-977-1 & 271-091-4]

TEST RESULTS: (Continued)

Total Cadmium Content in Plastics - Regulation (EC) No. 1907/2006 Annex XVII Entry 23 Paragraph 1(a)

Test Method : With reference to EN 1122: 2001 Method B. Acid digestion and analysis by Atomic Absorption Spectrophotometer (AAS) or Inductively Coupled Plasma - Atomic Emission Spectrometer (ICP-AES).

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	100 mg/kg

-	Unit	Result	
Test Item(s)	-	1	2
Total Cadmium (Cd)	mg/kg	ND	ND
Conclusion	-	PASS	PASS

Note / Key :

ND = Not detected ">" = Greater than "<" = Less than
mg/kg = milligram(s) per kilogram
Detection Limit (mg/kg): 10

TEST RESULT(S): (Continued)

PHYSICAL AND MECHANICAL HAZARDS (ASTM F963-17)

Subclause	Requirement	Result
4.1	Material Quality	M
4.3.7	Stuffing Materials	NA
4.5	Sound-Producing Toys	NA
4.6	Small Objects	NA
4.7	Accessible Edges	M
4.8	Projections	NA
4.9	Accessible Points	M
4.10	Wires and Rods	NA
4.11	Nails and Fasteners	NA
4.12	Plastic Film	NA
4.13	Folding Mechanisms and Hinges	NA
4.14	Cords, Straps and Elastics	NA
4.15	Stability and Over-Load Requirements	NA
4.16	Confined Spaces	NA
4.17	Wheels, Tires and Axles	NA
4.18	Holes, Clearances and Accessibility of Mechanisms	NA
4.19	Simulated Protective Devices	NA
4.20	Pacifiers	NA
4.21	Projectile Toys	NA
4.22	Teethers and Teething Toys	NA
4.23	Rattles	NA
4.24	Squeeze Toys	NA
4.25	Battery-Operated Toys (exclude section 4.25.10 Battery-powered ride-on toys)	NA
4.26	Toys intended to be Attached to a Crib or Playpen	NA
4.27	Stuffed and Beanbag-Type Toys	NA
4.30	Toy Gun Marking	NA
4.32	Certain Toys with Nearly Spherical Ends	NA
4.34	Small Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-Shaped Objects	NA
4.37	Yo Yo Elastic Tether Toys	NA
4.38	Magnets	NA
4.39	Jaw Entrapment in Handles and Steering Wheels	NA
4.40	Expanding Materials	NA
5.2	Age Grading Labeling	NA
5.4 & 5.3	Aquatic Toys	NA
5.5 & 5.3	Crib and Playpen Toys	NA
5.6 & 5.3	Mobiles	NA

PHYSICAL AND MECHANICAL HAZARDS (ASTM F963-17)

Subclause	Requirement	Result
5.7 & 5.3	Stroller and Carriage Toys	NA
5.8 & 5.3	Toys Intended to be Assembled by an Adult	NA
5.9 & 5.3	Simulated Protective Devices	NA
5.10 & 5.3	Toys with Functional Sharp Edges or Sharp Points	NA
5.11	Small Objects, Small Balls, Marbles and Balloons (16 CFR 1500.19)	NA
5.12	Toy Caps (16 CFR 1500.86)	NA
5.13	Art Materials (16 CFR 1500.14(b)(8))	M
5.15	Battery-Operated Toyss (exclude 5.15.1)	NA
5.15.1 & 5.3	Battery-Powered Ride-On Toys	NA
5.15.2 & 5.3	Button or coin cell batteries	NA
5.16	Promotional Materials	NA
5.17 & 5.3	Magnets	NA
6.1	Definition and Description	NA
6.2	Crib and Playpen Toys	NA
6.3	Mobiles	NA
6.4 & 5.3	Toys Intended to be Assembled by an Adult	NA
6.5	Battery-Operated Toys	NA
6.6	Battery-Powered Ride-On Toys	NA
6.7	Toys in Contact with Food	NA
7.1	Producer's Name and Address	NT
7.2	Battery-Powered Ride-On Toys	NA

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section NR= Not Request
NT = Not Tested NP = Not Presented

FLAMMABILITY (16 CFR SECTION 1500.3(c)(6)(vi))

Requirement	Test Method Reference	Result
Burn rate no greater than 0.1 of an inch per second	16 CFR 1500.44	PASS

TEST RESULT(S): (Continued)

Total Heavy Metals Content - Initial Screening of ASTM International Standard ASTM F963-17, Section 4.3.5.2(2)(b) for Soluble Heavy Metals Content in Modelling Clay

Test Method : ASTM International Standard ASTM F963-17, Section 8.3.1 and Annex A7.

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Total Element(s)	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Maximum Allowable Limit (mg/kg)	25	250	50	25	25	90	60	500

-	Unit	Result	
Test Item(s)	-	1	2
Parameter	-	-	-
Total Arsenic (As)	mg/kg	ND	ND
Total Barium (Ba)	mg/kg	ND	ND
Total Cadmium (Cd)	mg/kg	ND	ND
Total Chromium (Cr)	mg/kg	ND	ND
Total Mercury (Hg)	mg/kg	ND	ND
Total Lead (Pb)	mg/kg	ND	ND
Total Antimony (Sb)	mg/kg	ND	ND
Total Selenium (Se)	mg/kg	ND	ND
Conclusion	-	PASS	PASS

Note / Key :

ND = Not detected ">" = Greater than NR = Not requested
% = percent mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit (mg/kg) - As : 16 ; Ba : 10 ; Cd : 10 ; Cr : 10 ; Hg : 10 ; Pb : 10 ; Sb : 30; Se : 50

Remark :

- Test Item(s) with total heavy metals content (Except for total lead content) in modelling clay exceeding 80 % of this maximum allowable limit based on the lowest weight component or this maximum allowable limit should be considered as data and further tested by soluble heavy metals analysis of ASTM International Standard ASTM F963-17, Section 8.3.5 (Excluding 8.3.5.5(3)) as specified in Section 8.3.1.3.
- Test Item(s) with total lead content in modelling clay exceeding this maximum allowable limit should be retained as fail and not required to be further tested by soluble heavy metals analysis of ASTM International Standard ASTM F963-17, Section 8.3.5 (Excluding 8.3.5.5(3)) as specified in Section 8.3.1.3.
- Although the Test Item(s) 1 & 2 complies with the above requirement, it is possible that, if tested separately, one or more of the constituents of this (these) Test Item(s) may not comply with this requirement. Separate testing on this (these) Test Item(s) is recommended to discern the failed constituent(s).

TEST RESULT(S): (Continued)

Total Lead Content in Substrate - United States Consumer Product Safety Improvement Act (CPSIA) Section 101(a)(2)

Test Method : U.S. CPSC-CH-E1001-08.1 (June 21, 2010) or U.S. CPSC-CH-E1002-08.1 (June 21, 2010).

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	100 mg/kg

-	Unit	Result	
Test Item(s)	-	1	2
Total Lead (Pb)	mg/kg	ND	ND
Conclusion	-	PASS	PASS

Note / Key :

ND = Not detected ">" = Greater than
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
10000 mg/kg = 1 % % = percent
Detection Limit (mg/kg) : 10

TEST RESULT(S): (Continued)

Di-n-hexyl phthalate (DnHP) Content in Modeling Clay - California Proposition 65

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	**50 mg/kg[a]**

Test Item(s)	Result	Unit	Conclusion
1	ND	mg/kg	PASS
2	ND	mg/kg	PASS

Note / Key :

ND = Not detected ">" = Greater than
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit (mg/kg) : 50

Remark :

- [a] denotes as this maximum allowable limit is recommended by TUV SUD.
- Product(s) with DnHP content exceeding this maximum allowable limit has (have) to reformulate.

TEST RESULT(S): (Continued)

Phthalates Content in Children`s Toys and Child Care Articles - United States Code of Federal Regulations (CFR), Title 16, Part 1307 and United States Consumer Product Safety Improvement Act (CPSIA) of 2008, Sections 108(a) and 108(b)(3)

Test Method : With reference to U. S. CPSC Test Method CPSC-CH-C1001-09.3 (April 1, 2010).

Test Item(s)	Item / Component Description(s)
1	Neon Magenta + Neon Carrot + Neon Persian Blue Modelling Clay
2	Neon Middle Red Purple + Neon Golden Yellow + Neon Red Violet Modelling Clay

Maximum Allowable Limit :	**0.1 % (Each of all listed phthalates) [b]**

Test Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
1	ND	ND	%	PASS
2	ND	ND	%	PASS

Note / Key :

ND = Not detected ">" = Greater than Conc. = Concentration
% = percent 1 % = 10 000 mg/kg
U. S. CPSC = United States Consumer Product Safety Commission
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
Detection Limit (%) : Each of the listed phthalates : 0.005

Remark :

- The list of phthalates is summarized in table of Appendix.
- Accessible plastic materials (Including natural and synthetic rubber), plasticizer print, scrapable surface coatings, decals, unscrapable polymeric coated materials, adhesives and sealants, toy nail polish, reusable packaging, electrical plug and cables of children`s toys and childcare articles are applicable to be tested with the exclusion for adhesive for stickers and the materials listed below:
  (i) Polypropylene (PP);
  (ii) Polyethylene (PE),
  (iii) Acrylonitrile butadiene styrene (ABS);
  (iv) General purpose polystyrene (GPPS);
  (v) Medium-impact polystyrene (MIPS);
  (vi) High-impact polystyrene (HIPS);
  (vii) Super high-impact polystyrene (SHIPS); and
  Their additives as listed in United States Code of Federal Regulations (CFR), Title 16, Part 1308.
- [b] denotes as this maximum allowable limit applies to product(s) manufactured and imported on or after April 25, 2018.
- If no or unacceptable documentation, like Bill of Materials (BOM) or material identification, is provided by client, phthalate test(s) is (are) required to conduct on all plastic materials.
- Vendor is responsible for the compliance of other accessible materials, including additives in the exempt plastic materials, which are not tested.

APPENDIX

List of Phthalates [U. S. 16 CFR 1307 and U. S. CPSIA of 2008, Sections 108(a) and 108(b)(3)] :					
No.	**Name of Analyte(s)**	**CAS-No.**	**No.**	**Name of Analyte(s)**	**CAS-No.**
1	Butyl benzyl phthalate (BBP)	85-68-7	5	Di-iso-butyl phthalate (DIBP)	84-69-5
2	Dibutyl phthalate (DBP)	84-74-2	6	Di-n-pentyl phthalate (DnPP or DPENP)	131-18-0
3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	7	Di-n-hexyl phthalate (DnHP or DHEXP)	84-75-3
4	Di-iso-nonyl phthalate (DINP)	28553-12-0	8	Di-cyclohexyl phthalate (DCHP)	84-61-7
CAS-No. = Chemical Abstracts Service registry number					

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