

Test Report No.: NB2013070119A-2

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Client:

Buyer's name: N/A

Manufacturer's name: N/A

Test item(s): Art set- crayon/oil pastel
Details please refer to page 2

**Identification/
Model No(s):** N/A

Sample Receiving date: 2013-08-01

Delivery condition: Apparent good, Samples tested as received

Test specification:

Test result:

Customer requirement

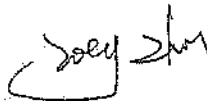
- | | |
|--|------|
| 1. Phthalates | Pass |
| 2. Total cadmium | Pass |
| 3. EN71-3:2013 Migration of 19 Elements – with reference to 2009/48/EC and its amendment 2012/7/EU | Pass |

Other Information:

Test period: 2013-08-01 – 2013-09-04

Abbreviations: ok / P = passed
fail / F = failed
n.a. / N = not applicable

For and on behalf of
TÜV Rheinland / CCIC (Ningbo) Co., Ltd.



2013-09-11 Zoey Zhou Project Coordinator

Date Name/Position

Test result is drawn according to the kind and extent of tests performed.
This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

Material list

Items:

Material No.	Material	Color	Location
M001	paper+printing	black and white	wrapping paper of crayon
M002	polymer	dark blue	crayon
M003	polymer	blue	crayon
M004	polymer	light blue	crayon
M005	polymer	water blue	crayon
M006	polymer	purple	crayon
M007	polymer	dark green	crayon
M008	polymer	green	crayon
M009	polymer	grass green	crayon
M010	polymer	claret violet	crayon
M011	polymer	red violet	crayon
M012	polymer	orient red	crayon
M013	polymer	pink	crayon
M014	polymer	heather violet	crayon
M015	polymer	red	crayon
M016	polymer	salmon orange	crayon
M017	polymer	traffic orange	crayon
M018	polymer	orange	crayon
M019	polymer	melon yellow	crayon
M020	polymer	flesh colour	crayon
M021	polymer	yellow	crayon
M022	polymer	black	crayon
M023	polymer	brown	crayon
M024	polymer	grey	crayon
M025	polymer	white	crayon
M026	polymer	dark blue	oil pastel
M027	polymer	blue	oil pastel
M028	polymer	light blue	oil pastel
M029	polymer	yellow green	oil pastel
M030	polymer	purple	oil pastel
M031	polymer	dark green	oil pastel
M032	polymer	green	oil pastel
M033	polymer	grass green	oil pastel
M034	polymer	claret violet	oil pastel
M035	polymer	red violet	oil pastel
M036	polymer	orient red	oil pastel
M037	polymer	pink	oil pastel
M038	polymer	heather violet	oil pastel
M039	polymer	red	oil pastel
M040	polymer	salmon orange	oil pastel
M041	polymer	traffic orange	oil pastel
M042	polymer	melon yellow	oil pastel
M043	polymer	flesh colour	oil pastel
M044	polymer	yellow	oil pastel
M045	polymer	black	oil pastel
M046	polymer	brown	oil pastel
M047	polymer	grey	oil pastel
M048	polymer	white	oil pastel
M049	polymer	pearl violet	oil pastel

Test results

1. Phthalates

Test Method: : Organic solvent extraction, analyzed by GCMS

Test Result:

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	1	2	3
					Material No.	M001	M002 + M003 + M004	M005 + M006 + M007
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	n.d.	n.d.	n.d.	
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--	n.d.	n.d.	n.d.	
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	n.d.	n.d.	n.d.	
Sum (DBP+BBP+DEHP)		%	NA	0.1	n.d.	n.d.	n.d.	
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	n.d.	n.d.	n.d.	
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--	n.d.	n.d.	n.d.	
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--	n.d.	n.d.	n.d.	
Sum (DNOP+DIDP+DINP)		%	NA	0.1	n.d.	n.d.	n.d.	
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	n.d.	n.d.	n.d.	
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	n.d.	n.d.	n.d.	
Conclusion					Pass	Pass	Pass	

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	4	5	6
					Material No.	M008 + M009 + M010	M011 + M012 + M013	M014 + M015 + M016
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	n.d.	n.d.	n.d.	
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--	n.d.	n.d.	n.d.	
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	n.d.	n.d.	n.d.	
Sum (DBP+BBP+DEHP)		%	NA	0.1	n.d.	n.d.	n.d.	
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	n.d.	n.d.	n.d.	
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--	n.d.	n.d.	n.d.	
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--	n.d.	n.d.	n.d.	
Sum (DNOP+DIDP+DINP)		%	NA	0.1	n.d.	n.d.	n.d.	
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	n.d.	n.d.	n.d.	
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	n.d.	n.d.	n.d.	
Conclusion					Pass	Pass	Pass	

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	7	8	9
					Material No.	M017 + M018 + M019	M020 + M021 + M022	M023 + M024 + M025
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	Result	n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--	Result	n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	Result	n.d.	n.d.	n.d.
Sum (DBP+BBP+DEHP)		%	NA	0.1	Result	n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	Result	n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--	Result	n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--	Result	n.d.	n.d.	n.d.
Sum (DNOP+DIDP+DINP)		%	NA	0.1	Result	n.d.	n.d.	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	Result	n.d.	n.d.	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	Result	n.d.	n.d.	n.d.
Conclusion						Pass	Pass	Pass

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	10	11	12
					Material No.	M026 + M027 + M028	M029 + M030 + M031	M032 + M033 + M034
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	Result	n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--	Result	n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	Result	n.d.	n.d.	n.d.
Sum (DBP+BBP+DEHP)		%	NA	0.1	Result	n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	Result	n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--	Result	n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--	Result	n.d.	n.d.	n.d.
Sum (DNOP+DIDP+DINP)		%	NA	0.1	Result	n.d.	n.d.	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	Result	n.d.	n.d.	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	Result	n.d.	n.d.	n.d.
Conclusion						Pass	Pass	Pass

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	13	14	15
					Material No.	M035 + M036 + M037	M038 + M039 + M040	M041 + M042 + M043
					Result			
					Result			
					Result			

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				requirement/ Customer requirement			
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--	n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	n.d.	n.d.	n.d.
Sum (DBP+BBP+DEHP)		%	NA	0.1	n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--	n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--	n.d.	n.d.	n.d.
Sum (DNOP+DIDP+DINP)		%	NA	0.1	n.d.	n.d.	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	n.d.	n.d.	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	n.d.	n.d.	n.d.
Conclusion					Pass	Pass	Pass

Parameter	CAS No.	Unit	RL	Regulatory requirement/ Customer requirement	Test No.	16	17
					Material No.	M044 + M045 + M046	M047 + M048 + M049
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--		n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	--		n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--		n.d.	n.d.
Sum (DBP+BBP+DEHP)		%	NA	0.1		n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--		n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	--		n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	--		n.d.	n.d.
Sum (DNOP+DIDP+DINP)		%	NA	0.1		n.d.	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1		n.d.	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1		n.d.	n.d.
Conclusion						Pass	Pass

Abbreviation: n.d. = not detected (< Reporting Limit)
 RL = Reporting Limit
 NA = Not Applicable
 % = percentage

Remark:

*1 Single components with an amount of <0.005% were not considered by the calculation of the sum. In the case of all 6 Phthalates were not detected, the result is stated n.d.

*2 REACH regulation (EC) No. 1907/2006 and amendment no. 552/2009 Annex XVII Item 51 (formerly known as 2005/84/EC) on BBP, DBP and DEHP and Item 52 (formerly known as 2005/84/EC) on DNOP, DIDP and DINP are employed.

2. Total Cadmium

Test Method: : For plastic: EN 1122:2001 (method B)
 For metal and other material: Acid digestion, analyzed by ICP-OES

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
1	M001	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
2	M002 + M003 + M004	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
3	M005 + M006 + M007	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
4	M008 + M009 + M010	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
5	M011 + M012 + M013	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
6	M014 + M015 + M016	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
7	M017 + M018 + M019	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
8	M020 + M021 + M022	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
9	M023 + M024 + M025	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
10	M026 + M027 + M028	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
11	M029 + M030 + M031	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
12	M032 +	Trial 1	mg/kg	10	100	n.d.

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	M033 + M034	Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
13	M035 + M036 + M037	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
14	M038 + M039 + M040	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
15	M041 + M042 + M043	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
16	M044 + M045 + M046	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
17	M047 + M048 + M049	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
 RL = Reporting Limit
 mg/kg = milligram per kilogram

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Remark:

* Regulations on Cadmium

EU	Legislation	Maximum Permissible Limit				
		Plastic materials	Paint (wet state)	Paint on the painted articles	Paint (high zinc content)	Metal parts of jewellery and imitation jewellery articles and hair accessories
EC	REACH regulation (EC) No. 1907/2006 Annex XVII Item 23 and its amendments (EC) No. 552/2009, (EU) No. 494/2011 and (EU) No. 835/2012	100mg/kg	N.D.	1000mg/kg	1000mg/kg	100mg/kg
Denmark	Statutory no. 858 on the prohibition of sale, import and manufacture of cadmium-containing products	100mg/kg	-	1000mg/kg	1000mg/kg	100mg/kg

Country	Legislation	Maximum Permissible Limit	
		Paint, plastic, plating/coating of surface treatment	Paint (high zinc content)
United Kingdom	Statutory Instrument 1993 No. 1643 The Environmental Protection (Controls on Injurious Substances) (No. 2) Regulations	100mg/kg	1000mg/kg
Germany	Germany Chemikalien-Verbotsverordnung – ChemVerbotsV, Anhang Abschnitt 18, Okt 1993	100mg/kg	-
Switzerland	Switzerland Chemikalien-Risikoreduktions-Verordnung-ChemRRV, 814.81, 18 May 2005	100mg/kg	-

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Test No.				34	35	36	37	38	39	40	41
Material No.				M034	M035	M036	M037	M038	M039	M040	M041
Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result	Result	Result	Result	Result
Tin (Sn)	mg/kg	0.2	15,000	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Organic tin ^	mg/kg	0.2	0.9	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Zinc (Zn)	mg/kg	10	3,750	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Conclusion				Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

Test No.				42	43	44	45	46	47	48	49
Material No.				M042	M043	M044	M045	M046	M047	M048	M049
Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result	Result	Result	Result	Result
Aluminium (Al)	mg/kg	10	5,625	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	1,500	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	1,200	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Chromium (Cr)	mg/kg	0.02	-	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Chromium III (CrIII)§	mg/kg	5	37.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Chromium VI (CrVI)§	mg/kg	0.02	0.02	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	622.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	0.5	13.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	1,200	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	4,500	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	0.2	15,000	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Organic tin ^	mg/kg	0.2	0.9	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Zinc (Zn)	mg/kg	10	3,750	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
Conclusion				Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

3) For scraped-off toy materials:

Test No.				T001
Material No.				M001
Parameter	Unit	RL	Regulatory Requirement	Result
Aluminium (Al)	mg/kg	10	70,000	81
Antimony (Sb)	mg/kg	1	560	n.d.
Arsenic (As)	mg/kg	1	47	n.d.
Barium (Ba)	mg/kg	2.5	18750	4.8

3) For scraped-off toy materials:

Test No.				T001
Material No.				M001
Parameter	Unit	RL	Regulatory Requirement	Result
Boron (B)	mg/kg	10	15,000	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.
Chromium (Cr)	mg/kg	0.2	-	n.d.
Chromium III (CrIII) [§]	mg/kg	5	460	n.d.
Chromium VI (CrVI) [§]	mg/kg	0.2	0.2	n.d.
Cobalt (Co)	mg/kg	2.5	130	7.9
Copper (Cu)	mg/kg	2.5	7,700	n.d.
Lead (Pb)	mg/kg	2.5	160	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	18
Mercury (Hg)	mg/kg	1	94	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.
Selenium (Se)	mg/kg	2.5	460	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	16
Tin (Sn)	mg/kg	1.0	180,000	n.d.
Organic tin [^]	mg/kg	1.0	12	n.d.
Zinc (Zn)	mg/kg	10	46,000	11
Conclusion				Pass

Notes: In-house method with fulfill the requirement of Clause 8 & Clause 9 of EN71-3:2013 for Cr(III)/Cr(VI) confirmation

Abbreviation: n.d. = Not Detected (< RL)

RL = Reporting Limit

mg/kg denotes milligram per kilogram

§ denotes Cr(III) and Cr(VI) are not necessary to be determined when the Combined Chromium concentration value is less than the requirement

^ denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit

Remark :

*1. The cadmium requirement is following 2012/7/EU, as of 3 Mar 2012. This restriction will come into effect starting from 20 July 2013 onwards.

*2. According to Commission Decision 2012/160/EU, the German measures on Category 3 scraped-off toy materials related to Barium (limit: 1000 mg/kg) and Lead (limit: 90 mg/kg) were approved by the European Commission until the date of entry into force of EU provisions setting new limits in toys or until 21 July 2013, whichever comes first.

Sample photo:



crayon/oil pastel

END