



TEST REPORT

MID OCEAN BRANDS B.V.

Technical Report: (2421)200-8008REVISION

July 27,2021

This report is amendment of and supersedes the previous(2421)200-8008 dated July 27,2021.

Date Received: July 19,2021

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Date Revision: July 29,2021

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7/F., KINGS TOWER, 111 KING LAM STREET, CHEUNG SHA

WAN, KOWLOON, HONG KONG

SAMPLE INFORMATION:

Sample Description:	BACKPACK W/5PCS MARKER	Sample Quantity:	N/A
Vendor:	111041	Style No(s):	MO9207
Manufacturer:	N/A	SKN/SKU No.:	N/A
Buyer:	N/A	PO No.:	N/A
Labeled Age Grade:	NOT PROVIDED	Ref #:	N/A
Appropriate Age Grade:	N/A	Country of Origin:	N/A
Client Specified Age Grade:	OVER 3 YEARS OF AGE	Assortment No.:	N/A
Tested Age Grade:	OVER 3 YEARS OF AGE	Country of Destination:	N/A
UPC Code:	N/A	Color :	N/A

EXECUTIVE SUMMARY:

TEST REQUESTED	CONCLUSION
Aromatic Amines Content from Azo Colorants - Regulation (EC) No. 1907/2006 Annex XVII Entry 43, Points 1 & 2	PASS
Polycyclic Aromatic Hydrocarbons (PAHs) Content – Regulation (EC) No. 1907/2006 Annex XVII Entry 50, Point 5	PASS
Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52	PASS
Total Cadmium Content in Plastic Material - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Entry 23	PASS
Total Cadmium Content & As Applicant's requirement	PASS
Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63	PASS
Benzene Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 5, Point 3	PASS
Colourfastness To Rubbing(ISO 105-X12:2016)	PASS

Revised Reason:As client's request, update test result of this report.

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BVCPS (ZHEJIANG) GENERAL CONTACT INFORMATION FOR THIS REPORT

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Bureau Veritas Testing Technical Service (Zhejiang) Co., Ltd

Ellis Lou
Technical Supervisor (HARDLINE AND TOY DIVISION)

Tested Component(s) Breakdown List

Test Item(s)	Description	Location(s)	Style(s)
1	Red plastic	Marker body	-
2	Orange plastic	Marker body	-
3	Yellow plastic	Marker body	-
4	Green plastic	Marker body	-
5	Blue plastic	Marker body	-
6	White plastic	Marker lid	-
7	Red ink	-	-
8	Orange ink	-	-
9	Yellow ink	-	-
10	Green ink	-	-
11	Blue ink	-	-
12	White fibre	Marker nib	-
13	Blue fabric with blue layer	Bag body	-
14	Red fabric with red layer	Bag body	-
15	Black tape	-	-
16	White fabric with black printing	-	-
17	Black plastic	Clasp	-
18	Black plastic	binding	-
19	Silvery metal	Zipper head	-
20	Red plastic	Zipper teeth	-
21	Blue plastic	Zipper teeth	-
22	White leatheroid	-	-
23	Red fabric	Zipper tape	-
24	Blue fabric	Zipper tape	-

Aromatic Amines Content from Azo Colorants - Regulation (EC) No. 1907/2006 Annex XVII Entry 43, Points 1 & 2

Test Method I : EN ISO14362-1:2017

Test Method II : ISO 17234-1: 2015

Test Method III : EN ISO14362-3: 2017

Quantification analysis by GC-MS and confirmation by LC-DAD.

Maximum Allowable Limit:	30 mg/kg (Each)
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Tested Item(s)	Test Method	Result			Conclusion
		Detected Analyte(s)	Concentration	Unit	
13+14+15	I	ND	ND	mg/kg	PASS
16+22	I	ND	ND	mg/kg	PASS
23+24	I	ND	ND	mg/kg	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

Detection Limit (mg/kg): Each 10

Remark:

- *Azo colorants that are able to form p-aminoazobenzene, generate aniline and 1,4-phenylenediamine under the condition of test method I. If aniline and/or 1,4-phenylenediamine is not found by test method I, test result for 4-aminoazobenzene (CAS no. 60-09-3) is considered as "Not detected". Otherwise, the test method III will be employed to verify the presence of 4-aminoazobenzene.
- The list of amines in azo dyestuff is summarized in table of Appendix.

APPENDIX

List of Amines in Azo Dyestuff:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	4-Aminodiphenyl	92-67-1	12	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0
2	Benzidine	92-87-5	13	p-Chloroaniline	106-47-8
3	4-Chloro-o-Toluidine	95-69-2	14	p-Cresidine	120-71-8
4	2-Naphthylamine	91-59-8	15	4,4'-Methylene-bis-(2-chloraniline)	101-14-4
5	o-Aminoazotoluene	97-56-3	16	4,4'-Oxydianiline	101-80-4
6	2-Amino-4-nitrotoluene	99-55-8	17	4,4'-Thiodianiline	139-65-1
7	2,4-Diaminoanisole	615-05-4	18	2,4-Toluenediamine	95-80-7
8	4,4'-Diaminodiphenylmethane	101-77-9	19	o-Toluidine	95-53-4
9	3,3'-Dichlorobenzidine	91-94-1	20	2,4,5-Trimethylaniline	137-17-7
10	3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4	21	o-Anisidine	90-04-0
11	3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7	22	*p-Aminoazobenzene (4-Amino-azobenzene)	60-09-3



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Polycyclic Aromatic Hydrocarbons (PAHs) Content – Regulation (EC) No. 1907/2006 Annex XVII Entry 50, Point 5

Test Method : With reference to test method mentioned in German AfPS GS 2019:01 PAK.

Maximum Allowable Limit :	1.0 mg/kg (Each of all listed PAHs)
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Parameter	Unit	Result				
		1+2+3	4+5+6	16+22	17+20+21	18
Benzo (a) pyrene	mg/kg	ND	ND	ND	ND	ND
Benzo (e) pyrene	mg/kg	ND	ND	ND	ND	ND
Benzo (a) anthracene	mg/kg	ND	ND	ND	ND	ND
Chrysene	mg/kg	ND	ND	ND	ND	ND
Benzo (b) fluoranthene	mg/kg	ND	ND	ND	ND	ND
Benzo (j) fluoranthene, Benzo (k) fluoranthene	mg/kg	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	mg/kg	ND	ND	ND	ND	ND
Conclusion	-	PASS	PASS	PASS	PASS	PASS

Note / Key :

ND = Not detected

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

Detection Limit (mg/kg) -

Each of the listed PAHs : 0.2

Remark :

- The list of polycyclic aromatic hydrocarbons is summarized in table of Appendix.

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 (DBA _h A)	53-70-3
CAS-No. = Chemical Abstracts Service registry number					

Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52

Test Method : Reference to EN14372:2004

Maximum Allowable Limit:	Sum of DBP, BBP, DEHP, DIBP: 0.1 % Sum of DNOP, DIDP, DINP: 0.1 %
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A. For toys and childcare articles

Parameter	CAS No.	Unit	MDL	Result				
				1+2+3	4+5+6	16+22	17+20+ -21	18
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND	ND	ND	ND
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND	ND	ND	ND
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND	ND	ND	ND
Diisobutyl phthalate (DiBP)	84-69-5	%	0.005	ND	ND	ND	ND	ND
Sum	-	%	0.005	ND	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS	PASS

B. Additional requirements for toys and childcare articles, which can be placed in mouth by the children (See remark)

Parameter	CAS No.	Unit	MDL	Result				
				1+2+3	4+5+6	16+22	17+20+ 21	18
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	ND	ND	ND	ND	ND
Di-iso-decyl phthalate (DIDP)	26761-40-0	%	0.005	ND	ND	ND	ND	ND
Di-iso-nonyl phthalate (DINP)	28553-12-0	%	0.005	ND	ND	ND	ND	ND
Sum	-	%	0.005	ND	ND	ND	ND	ND
Conclusion	-	-	-	PASS	PASS	PASS	PASS	PASS

Note / Key:

ND = Not Detected

% = percentage

MDL = Method Detection Limit

Remark:

- Toys and childcare articles, which can be placed in mouth by the children, shall meet the requirements of both Part A and B.

Total Cadmium Content in Plastic Material - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Entry 23

Test Method : EN 1122: 2001, Method B
The sample is digested with acid, then analyzed by ICP-OES.

Maximum Allowable Limit:	100 mg/kg
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Parameter	Unit	MDL	Result			
			1+2+3	4+5+6	17+20+21	18
Cadmium (Cd)	mg/kg	10	ND	ND	ND	ND
<i>Conclusion</i>	-	-	PASS	PASS	PASS	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Total Cadmium Content & As Applicant's requirement

Test methods: The sample is comminuted and digested with acid mixtures, then analyzed by ICP-OES and AAS technique

Parameter	Unit	MDL	Result						Client's Limit
			7+8+9	10+11+12	13 14+15	16+22	19	23+24	
Cadmium (Cd)	mg/kg	10	ND	ND	ND	ND	ND	ND	100
Conclusion	-	-	PASS	PASS	PASS	PASS	PASS	PASS	-

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63

Test Method : The sample is digested with acid, then analyzed by ICP-OES and AAS.

Maximum Allowable Limit:	500 mg/kg
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Parameter	Unit	MDL	Result				
			1+2+3	4+5+6	7+8+9	10+11+12	13+14+15
Lead (Pb)	mg/kg	10	ND	ND	ND	ND	ND
<i>Conclusion</i>	-	-	PASS	PASS	PASS	PASS	PASS

Parameter	Unit	MDL	Result				
			16+22	17+20+21	18	19	23+24
Lead (Pb)	mg/kg	10	ND	ND	ND	42.3	ND
<i>Conclusion</i>	-	-	PASS	PASS	PASS	PASS	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit



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Benzene Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 5, Point 3

Maximum Allowable Limit :		Less than 5 mg/kg					
Parameter	Unit	MDL	Result				
			1+2+3	4+5+6	16+22	18	17+20+21
Benzene	mg/kg	1	ND	ND	ND	ND	ND
<i>Conclusion</i>	-	-	PASS	PASS	PASS	PASS	PASS

Parameter	Unit	MDL	Result				
			7	8	9	10	11
Benzene	mg/kg	1	ND	ND	ND	ND	ND
<i>Conclusion</i>	-	-	PASS	PASS	PASS	PASS	PASS

Note / Key:

ND = Not Detected

MDL = Method Detection Limit

mg/kg = milligram per kilogram

COLOURFASTNESS TO RUBBING(ISO 105-X12:2016)

	13	14	15	16	Limit
LENGTH					
DRY	4-5	4-5	4	4	2-3
WET	4-5	4-5	4-5	4-5	2-3
Conclusion	PASS	PASS	PASS	PASS	

COLOURFASTNESS RATING

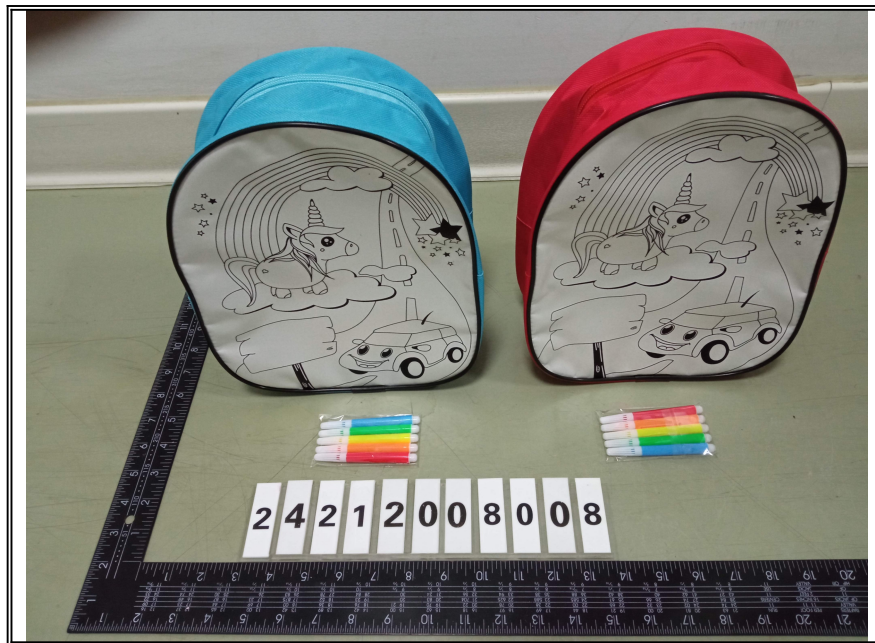
GRADE 5	NEGLIGIBLE OR NO CHANGE OR STAINING
GRADE 4	SLIGHTLY CHANGED OR STAINED
GRADE 3	NOTICEABLY CHANGED OR STAINED
GRADE 2	CONSIDERABLY CHANGED OR STAINED
GRADE 1	MUCH CHANGED OR STAINED



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SAMPLE REFERENCE PHOTO:



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