



# TEST REPORT

**Reference No.** ..... : WTF21F12147221A1C  
**Applicant** ..... : Mid Ocean Brands B.V.  
**Address** ..... : 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong  
**Manufacturer**..... : 106613  
**Sample Name**..... : Set of 7 garden tools with apron  
**Model No.** ..... : MO6548  
**Test Requested**..... : 1) Determination of Lead content in the submitted sample in accordance with REACH regulation Annex XVII Entries 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628  
2) Determination of Cadmium content in the submitted sample in accordance with REACH regulation Annex XVII Entries 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011, No. 835/2012 and (EU) 2016/217  
3) Determination of specified Phthalates content according to Annex XVII Items 51 & 52 of the REACH Regulation (EC) No. 1907/2006 & Amendment No. 552/2009 & No. 2018/2005  
4) Determine the specified AZO Colorants contents in the submitted sample in according to the Entries 43 in Annex XVII of the REACH Regulation (EC) No.1907/2006 and the Amendment Regulation (EC) No.552/ 2009 & No.126/ 2013 (previously restricted under Directive 2002/61/EC).  
5) As specified by client, determination of the released formaldehyde content in submitted sample  
6) As requested by the applicant, to test Colour Fastness to Rubbing in the submitted sample.  
**Test Method** ..... : Please refer to next page (s)  
**Test Conclusion** ..... : Please refer to next page (s)  
**Date of Receipt sample**..... : 2021-12-23 & 2022-01-19  
**Date of Test**..... : 2021-12-23 to 2022-01-24  
**Date of Issue**..... : 2022-01-25  
**Test Result**..... : Please refer to next page (s)  
**Note** ..... : As specified by client, only test the designated sample.

## Remarks:

The results shown in this test report refer only to the sample(s) tested; this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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**Test Result:****1) Lead (Pb)**

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.1+No.2+No.3	No.4	No.5	
Lead(Pb)	2	ND*	ND	ND	500
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

Test Item	LOQ (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.6+No.7	No.8	No.9+No.10 +No.15	
Lead(Pb)	2	ND*	ND	ND*	500
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

Test Item	LOQ (mg/kg)	Results (mg/kg)			Limit (mg/kg)
		No.11	No.12+No.13	No.14	
Lead(Pb)	2	ND	ND*	ND	500
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

Test Item	LOQ (mg/kg)	Results (mg/kg)		Limit (mg/kg)
		No.16+No.17+No.18	No.19	
Lead(Pb)	2	ND*	ND	500
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	--

**Note:**

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than LOQ)
- (3) LOQ = Limit of quantitation
- (4) Limit of Lead was quoted from REACH regulation Annex XVII Item 63 (EC) No. 1907/2006 and the amendment No. 836/2012 and (EU) 2015/628.
- (5) "\*" = Results are calculated by the minimum weight of mixed components.
- (6) The test sample of specimen No.5 is received on the date of 2021-12-23.





## 2) Cadmium (Cd)

Test Method: With reference to IEC 62321-5:2013, the analysis was performed by ICP-OES.

Test Item	LOQ (mg/kg)	Results (mg/kg)		
		No.1+No.2+No.3	No.4	No.5
Cadmium(Cd)	2	ND*	ND	ND
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

Test Item	LOQ (mg/kg)	Results (mg/kg)		
		No.6+No.7	No.8	No.11
Cadmium(Cd)	2	ND*	ND	ND
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

### Note:

- (1) mg/kg = milligram per kilogram
- (2) ND = Not Detected (lower than LOQ)
- (3) LOQ = Limit of quantitation
- (4) Limit of Cadmium according to REACH regulation Annex XVII Item 23 (EC) No. 1907/2006 and the amendment No. 552/2009, No. 494/2011 and No. 835/2012 and (EU) 2016/217.

Category	Limit (mg/kg)
Wet paint	100
Surface coating	1000
Plastic	100
Metal parts of jewellery and hair accessories	100

- (5) "\*" = Results are calculated by the minimum weight of mixed components.
- (6) The test sample of specimen No.5 is received on the date of 2021-12-23.



### 3) Phthalates

Test Method: With reference to EN14372:2004, by Gas Chromatographic-Mass Spectrometric (GC-MS) analysis.

Test Items	LOQ (%)	Results (%)			Limit (%)
		No.4	No.5	No.11	
Benzyl butyl phthalate (BBP)	0.005	ND	ND	ND	sum of four phthalates < 0.1
Di (2-ethyl hexyl)- phthalate (DEHP)	0.005	ND	ND	ND	
Dibutyl phthalate (DBP)	0.005	ND	0.073	ND	
Diisobutyl phthalate (DIBP)	0.005	ND	0.011	ND	
Diisodecyl phthalate (DIDP)	0.01	ND	ND	ND	sum of three phthalates < 0.1
Diisononyl phthalate (DINP)	0.01	ND	ND	ND	
Di-n-octyl phthalate (DNOP)	0.005	ND	ND	ND	
<b>Conclusion</b>	--	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

#### Note:

DBP= Dibutyl phthalate

BBP= Benzyl butyl phthalate

DEHP= Bis-(2-ethylhexyl)- phthalate

DINP= Di-isononyl phthalate

DNOP= Di-n-octyl phthalate

DIDP= Di-isodecyl phthalate

DIBP= Diisobutyl phthalate

(1) % = percentage by weight

(2) ND = Not Detected or lower than limit of quantitation

(3) LOQ = Limit of quantitation

(4) "<" = less than

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

(6) The test sample of specimen No.5 is received on the date of 2022-01-19.



## 4) AZO

Test Method: With reference to BS EN ISO 14362-1: 2017 and BS EN ISO 14362-3: 2017, analysis was performed by Gas Chromatographic Mass Spectrometry (GC-MS)

No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)	
				No.1	No.2+No.3
1	4-Aminobiphenyl	92-67-1	30	ND	ND*
2	Benidine	92-87-5	30	ND	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND	ND*
4	2-Naphthylamine	91-59-8	30	ND	ND*
5	o-Aminoazotoluene	97-56-3	30	ND	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND	ND*
7	p-Chloroaniline	106-47-8	30	ND	ND*
8	2,4-diaminoanisol	615-05-4	30	ND	ND*
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND	ND*
10	3,3'-Dichlorobenzidine	91-94-1	30	ND	ND*
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND	ND*
12	3,3'-Dimethylbenzidine	119-93-7	30	ND	ND*
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND	ND*
14	p-cresinin	120-71-8	30	ND	ND*
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND	ND*
16	4,4'-Oxydianiline	101-80-4	30	ND	ND*
17	4,4'-Thiodianiline	139-65-1	30	ND	ND*
18	o-Toluidine	95-53-4	30	ND	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND	ND*
21	o-anisidine	90-04-0	30	ND	ND*
22	4-aminoazobenzene	60-09-3	30	ND	ND*
23	2,4-Xylidin	95-68-1	30	ND	ND*
24	2,6-Xylidin	87-62-7	30	ND	ND*
<b>Conclusion</b>		--	--	<b>Pass</b>	<b>Pass</b>





No.	Amines Substances	CAS No.	Limit (mg/kg)	Result (mg/kg)
				No.6+No.7
1	4-Aminobiphenyl	92-67-1	30	ND*
2	Benzidine	92-87-5	30	ND*
3	4-chloro-o-Toluidine	95-69-2	30	ND*
4	2-Naphthylamine	91-59-8	30	ND*
5	o-Aminoazotoluene	97-56-3	30	ND*
6	2-Amino-4-nitrotoluene	99-55-8	30	ND*
7	p-Chloroaniline	106-47-8	30	ND*
8	2,4-diaminoanisol	615-05-4	30	ND*
9	4,4'-Diaminodiphenylmethane	101-77-9	30	ND*
10	3,3'-Dichlorobenzidine	91-94-1	30	ND*
11	3,3'-Dimethoxybenzidine	119-90-4	30	ND*
12	3,3'-Dimethylbenzidine	119-93-7	30	ND*
13	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	30	ND*
14	p-cresinin	120-71-8	30	ND*
15	4,4'-Methylen-bis-(2-chloroaniline)	101-14-4	30	ND*
16	4,4'-Oxydianiline	101-80-4	30	ND*
17	4,4'-Thiodianiline	139-65-1	30	ND*
18	o-Toluidine	95-53-4	30	ND*
19	2,4-Toluylendiamine	95-80-7	30	ND*
20	2,4,5 – Trimethylaniline	137-17-7	30	ND*
21	o-anisidine	90-04-0	30	ND*
22	4-aminoazobenzene	60-09-3	30	ND*
23	2,4-Xylidin	95-68-1	30	ND*
24	2,6-Xylidin	87-62-7	30	ND*
<b>Conclusion</b>			--	<b>Pass</b>

**Note:**

- ND = Not Detected or lower than limit of quantitation
- mg/kg=Milligram per kilogram
- Limit of quantitation (mg/kg): Each 5mg/kg
- The CAS-numbers 97-56-3 and 99-55-8 are further reduced to CAS-numbers 95-53-4 and 95-80-7.
- AZO colorants that are able to form 4-aminoazobenzene, generate under the condition of this method aniline and 1,4-phenylenediamine. The presence of these colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorant used.
- The CAS-numbers 95-68-1 and 87-62-7 are not proscribed under REACH Regulation (EC) No 1907/2006
- "\*" = Results are calculated by the minimum weight of mixed components.



### 5) Formaldehyde

Test Method: With reference to EN717-3:1996, analysis was performed by UV-VIS

Test Item	Unit	Result	LOQ	Client's Limit
		No.19		
Formaldehyde (CH <sub>2</sub> O)	mg/kg	ND	10	80
<b>Conclusion</b>	--	<b>Pass</b>	--	--

**Note:**

- ND = Not Detected or lower than limit of quantitation
- mg/kg =milligram per kilogram=ppm
- LOQ = Limit of quantitation

### 6) Colour Fastness to Rubbing

Colour Fastness to Rubbing					
(ISO 105-X12: 2016; Size of rubbing finger: 16mm diameter.)					
		No.1+No.2	No.3	No.6+No.7	Client's Limit
Length	Dry staining	4-5*	4-5	4-5*	2-3
	Wet staining	4-5*	4-5	4-5*	2-3
Width	Dry staining	4-5*	--	4-5*	2-3
	Wet staining	4-5*	--	4-5*	2-3
<b>Conclusion</b>		<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	--

**Note:**

- (1) Grey Scale Rating is based on the 5-step scale of 1 to 5, where 1 is bad and 5 is good.
- (2) "\*" = As per applicant's requirement, the testing was conducted based on mixed components.

**Test Specimen Description:**

- No.1: Green main fabric
- No.2: Beige fabric edge
- No.3: Beige fabric band
- No.4: Black plastic buckle
- No.5: Black plastic dot
- No.6: Beige fabric
- No.7: Beige fabric
- No.8: Silvery metal scissor with black coating
- No.9: Silvery metal nut
- No.10: Silvery metal buckle
- No.11: Black plastic handle
- No.12: Silvery metal rivet
- No.13: Silvery metal buckle
- No.14: Silvery metal spring
- No.15: Silvery metal rivet
- No.16: Silvery metal blade
- No.17: Silvery metal ring
- No.18: Silvery metal fork
- No.19: Brown-yellow wooden handle

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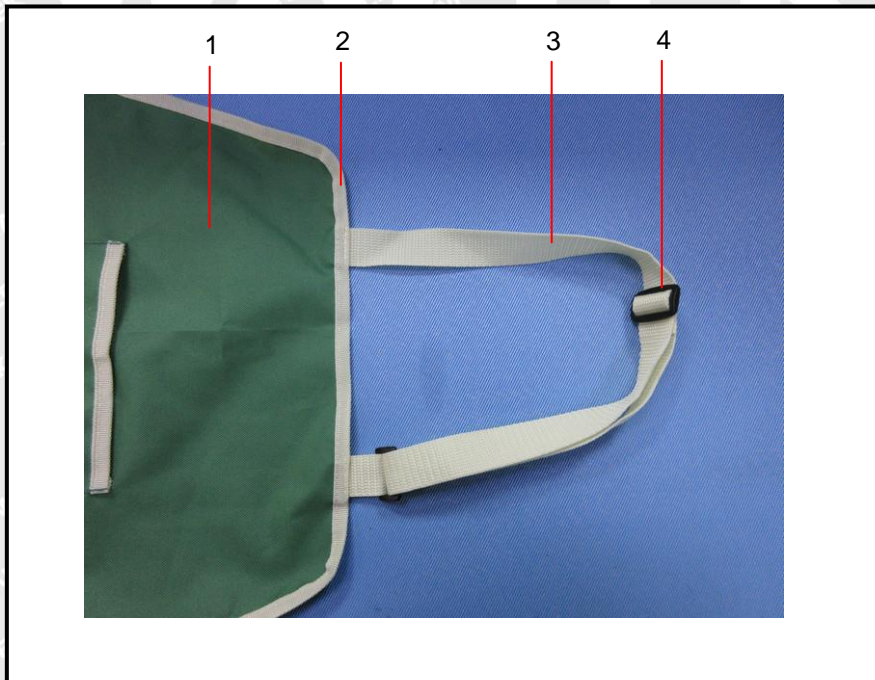
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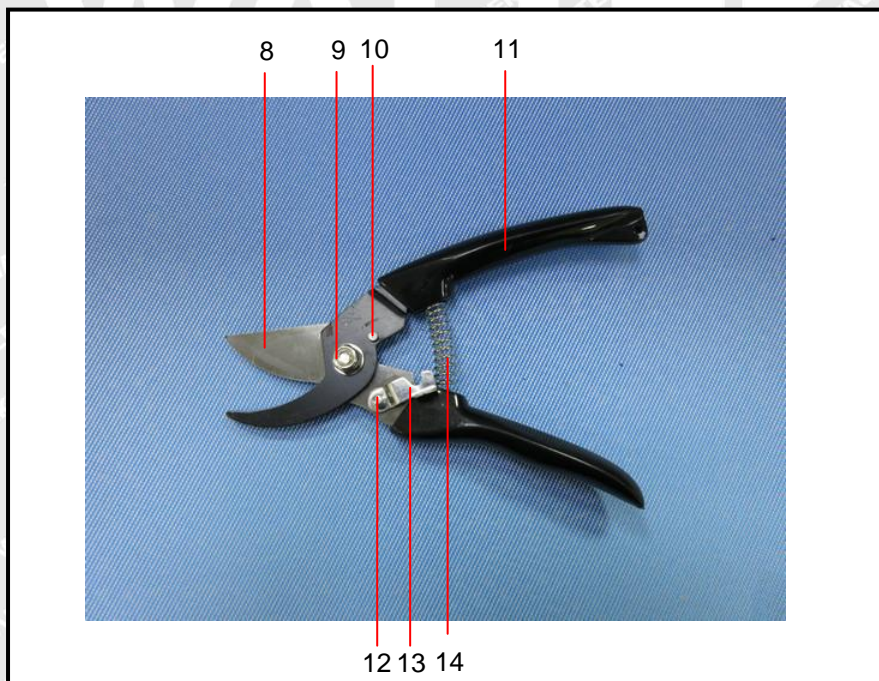
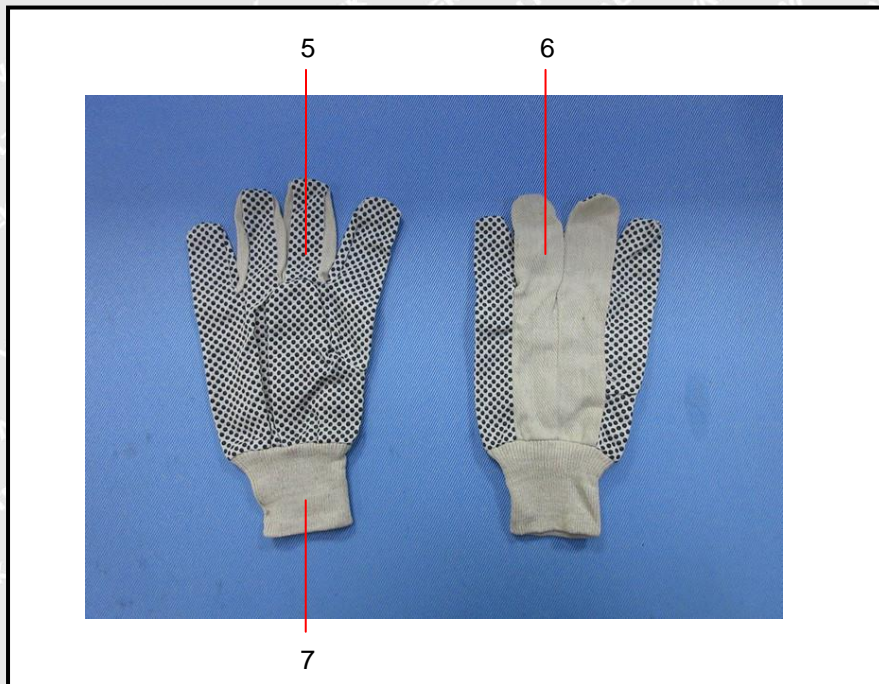




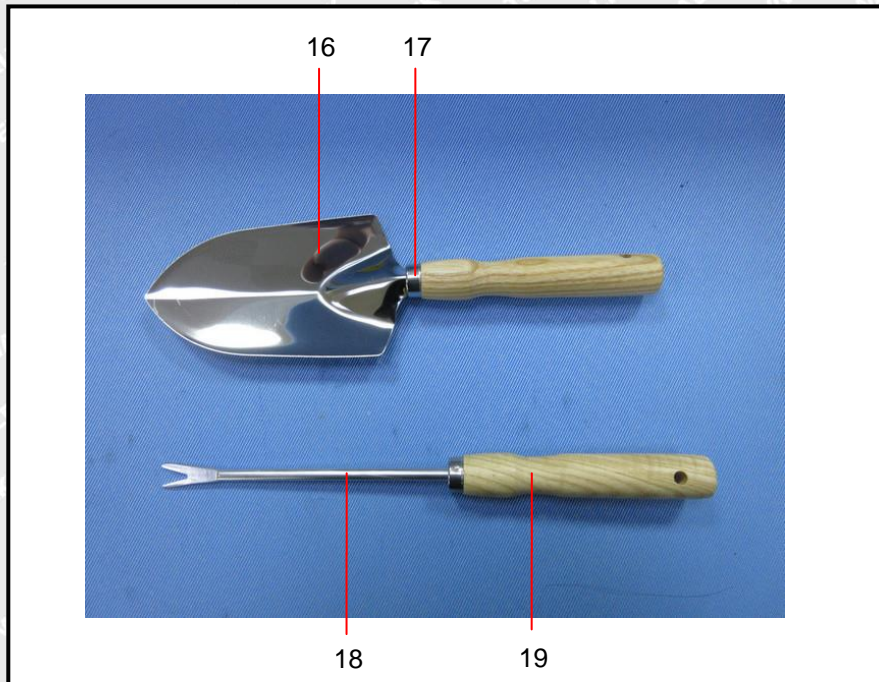
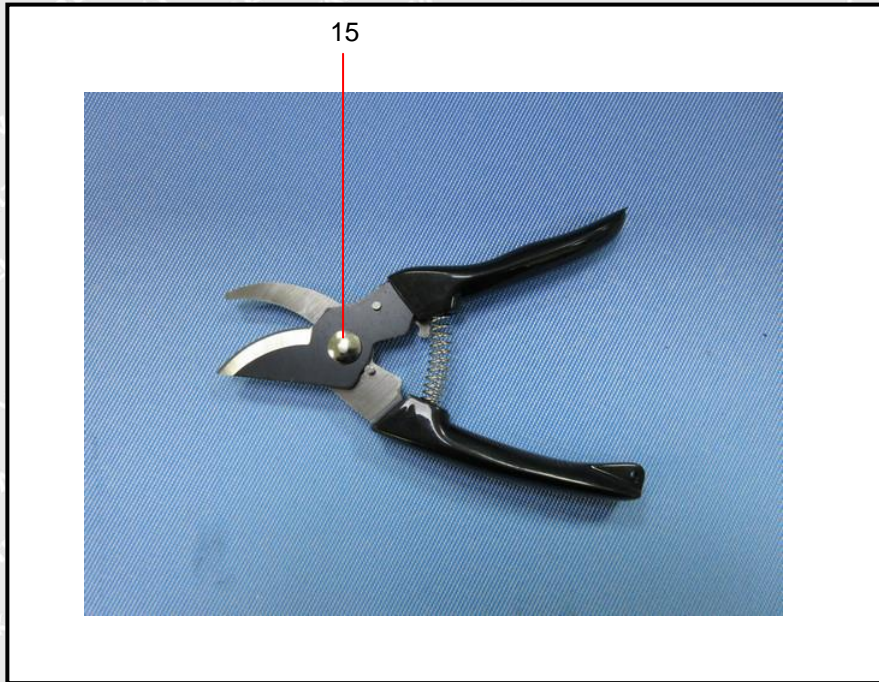
Photographs of parts tested:











==== End of Report =====