

Report No.: 0154102291a 001

Page 1 of 6

Client: NINGBO MATTHEW SYNTHETIC LEATHER CO., LTD

Room613, Jindu Int'l, No.345 South Huancheng Rd West, Ningbo 315012, P.R. China

Test item(s): ECO PU leather

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

Sample Receiving date: 2015-05-25

Testing Period: 2015-05-26 – 2015-06-03

Test specification:

Test result:

Customer's requirement:

1. Emission test for VOC and formaldehyde based on standards ISO 16000-6 & 9 and evaluation reference to the AgBB/ DiBt requirements

Please refer to page 3 - 5

**For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.**



2015-06-04

Liang Zhang / Project Manager

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.

Test Report No.: 0154102291a 001

Page 2 of 6

Material list:

Item: ECO PU leather

Material No.	Material	Color	Location
M001	Coated textile	Black	Refer to photo

Test Report No.: 0154102291a 001

Page 3 of 6

1. Emission test for VOC and formaldehyde based on standards ISO 16000-6 & 9 and evaluation reference to the AgBB/ DiBt requirements**Test method(s)**

- ISO 16000-6:2004 Indoor air – Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA[®] sorbent, thermal desorption and gas chromatography using MS/FID
- ISO 16000-9:2006 Indoor air – Part 9: Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method

Test chamber conditions

Test chamber:	Corresponding to ISO 16000-9
Test chamber volume:	1 m ³
Temperature of supply air:	23 °C ± 2 °C
Relative humidity of supply air:	50 % ± 5 %
Air exchange rate:	1m ³ /h
Loading factor:	0.4 m ² /m ³
Inflow velocity:	0.3 m/s

Test Report No.: 0154102291a 001

Page 4 of 6

Test Results

Table 1. Emission Results after 24 hours

Test item: M001 (Coated textile, black)					
Substance	CAS No.	Chamber concentration ($\mu\text{g}/\text{m}^3$)	LCI/NIK value ($\mu\text{g}/\text{m}^3$)	R value (C/LCI)	Classification (Carc. 1 & 2)/SVOC
n-Dodecane	112-40-3	2	--	--	--
n-Tetradecane	629-59-4	1	--	--	--
2,6-Di-tert-butyl-p-kresol	128-37-0	2	100	0.02	--
n-noanal	124-19-6	4	1300	0.003	--
Dimethylformamid	68-12-2	9	15	0.6	--
Dimethylacetamid	127-19-5	4	--	--	--
Total VOC (TVOC) ($\text{C}_6\text{-C}_{16}$)	--	26	--	--	--
Total SVOC (TSVOC) ($> \text{C}_{16}$)	--	--	--	--	--

Table 2. Emission Results after 3 days

Test item: M001 (Coated textile, black)					
Substance	CAS No.	Chamber concentration ($\mu\text{g}/\text{m}^3$)	LCI/NIK value ($\mu\text{g}/\text{m}^3$)	R value (C/LCI)	Classification (Carc. 1 & 2)/SVOC
2,6-Di-tert-butyl-p-kresol	128-37-0	2	100	0.002	--
Dimethylformamid	68-12-2	3	15	0.2	--
Total VOC (TVOC) ($\text{C}_6\text{-C}_{16}$)	--	11	--	--	--
Total SVOC (TSVOC) ($> \text{C}_{16}$)	--	--	--	--	--

Table 3. Evaluation of results reference to the AgBB/ DiBt requirements

Parameter	3 Days	
	Result (mg/m^3)	AgBB/DiBt requirement
TVOC ($\text{C}_6 - \text{C}_{16}$)	0.011	$\leq 10 \text{ mg}/\text{m}^3$
Σ SVOC ($\text{C}_{16} - \text{C}_{22}$)	--	None
Σ R (dimensionless)	0.202	None
Σ VOC without LCI	--	None
Σ Carcinogenic	--	$\leq 0.01 \text{ mg}/\text{m}^3$

The results can be summarized as follow:

- No carcinogenic substances were detected after 3 days.
- The total VOC (TVOC) after 3 days was below the threshold limit of $10 \text{ mg}/\text{m}^3$
- Formaldehyde was not tested by request of the client.

Test Report No.: 0154102291a 001

Page 5 of 6

Abbreviation:

VOC = Volatile Organic Compound

SVOC = Semi Volatile Organic Compound

TVOC = Total Volatile Organic Compound

TSVOC = Total Semi Volatile Organic Compound

C_i = Chamber concentration of compound i

LCI (or NIK) = Lowest Concentration of Interest

n.d. = not detected (< 1 µg/m³)

Carc. = Carcinogenic, classified according to the GHS system

µg/m³ = micrograms per cubic meter

mg/m³ = milligrams per cubic meter

ppm = parts per million

Test Report No.: 0154102291a 001

Page 6 of 6

Sample photos



- END -