AUBURN LEATHER COMPANY

Restricted Substance Testing: Base Color #03 Cherokee Brown

Laboratory Test Certificate Number: 24544A

ISO 17025 LIMS Audit Trail Number: 10-01094 (-001)

REPORT AUTHORIZED BY: Steve D. Lange (Director)
9/19/2014

LABORATORY ACCREDITATION BUREAU a division of A-S-B
ACCREDITED ISO/IEC 17025
Certificate # L2300 – Testing

Leather Research Laboratory University of Cincinnati 5997 Center Hill Avenue Bldg. C Cincinnati OH 45224 P:(513) 242-6300 www.leatherusa.org

SAMPLE INFORMATION

Client	Auburn Leather Company 125 Caldwell Street Auburn, KY 42206
Contact	Jimmy Pinson
Samples	Side of crust chrome tanned lace leather identified as: Base color #03 Cherokee Brown
Date received	August 15, 2014
Request	Perform Formaldehyde, Chrome (VI), Organotin, Chlorinated fungicides, DMF, PFOS, Alkyl phenol/ethoxylate (NPEO), Phthalate, pH and NMP testing.

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TEST PROCEDURES

SUBSTANCE	METHOD DESIGNATION	METHOD TITLE
Hexavalent Chromium	ISO 17075 (IULTCS/IUC 18)	Leather – Chemical tests - Determination of chromium(VI) content
Formaldehyde	ISO 17226-1 (IULTCS/IUC 19-1)	Leather — Chemical determination of formaldehyde content — Part 1: Method using high performance liquid chromatography
Acidity (pH & pH difference)	ISO 4045 (IULTCS/IUC 11)	Leather — Chemical tests — Determination of pH
Chlorinated Fungicides*	ISO 17070	Leather — Chemical tests —Determination of pentachlorophenol content (Modified to include TeCP & TCP)
PFOS content*	Methanol extraction followed by GC-MS analysis	
Alkyl phenols (NPEO, OPEO, OP & NP)*	ISO/DIS 18218-2	Leather — Determination of ethoxylated alkylphenols Part 2: Indirect methodInstrument used: HPLC
Phthalates*	CPSC-CH-C1001-09.3	Standard Operating Procedure for Determination of Phthalates
Dimethyl Fumarate* (DMF)	Solvent extraction of the leather followed by liquid chromatography	
NMP*	Solvent extraction with ethyl acetate followed by GC-MS analysis	
Organotin Compounds*	Solvent extraction with followed by GC-MS analysis	

* This laboratory is not accredited for tests marked thus.

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SAMPLE

RESTRICTED SUBSTANCE TESTING RESULTS

Table 1. HEXAVALENT CHROMIUM

Test Sample	HEXAVALENT CHROMIUM (ppm moisture-free basis)
1	NONE DETECTED (< 3.0)
2	NONE DETECTED (< 3.0)
AVERAGE	NONE DETECTED (< 3.0)

QUALITY ASSURANCE DATA FOR HEXAVALENT CHROMIUM		
Test Item	Result (%)	Target (%)
Moisture Content	13.7	n/a
Recovery Rate of Chromium(VI) Spike (test sample #1)	83	80 - 105
Recovery Rate of Chromium(VI) Spike (test sample #2)	97	80 - 105
Recovery Rate of Certified Quality Assurance Standard	101	90 - 105

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Table 2. FORMALDEHYDE

Test Sample	FORMALDEHYDE (ppm moisture-free basis)
1	6.7
2	6.6
AVERAGE	6.7

Table 3. CHLORINATED FUNGICIDE CONTENT

	CHLORINATED FUNGICIDES* (mg/kg)		
Fungicide	PCP	TeCP	TCP
RESULT	< 1 (ND)	< 1 (ND)	< 1 (ND)

Note: ND = Not Detected

Table 4. PERFLUORINATED CHEMICAL CONTENT

PERFLUOROOCTANE SULFONATE (PFOS) CONTENT (mg/kg or µg/L)	
RESULT	< 1 mg/kg (ND)

Note: ND = Not Detected

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Table 5. ORGANOTIN COMPOUNDS

Analyte tested	ORGANOTIN CONCENTRATION (ppm)
TBT (Tributyl Tin)	None detected (< 0.5)
TPhT (Triphenyl Tin)	None detected (< 0.5)
DBT (Dibutyl Tin)	None detected (< 0.5)
DOT (Dioctyl Tin)	None detected (< 0.5)
MBT (Monobutyl Tin)	None detected (< 0.5)

Table 6. pH and pH DIFFERENCE

Test Sample	pH	pH difference
1	3.58	0.30
2	3.58	0.30
AVERAGE	3.58	0.30

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Table 7. PHTHALATE CONTENT

Test Sample/ Phthalate tested	PHTHALATE CONCENTRATION (ppm)
Dibutyl phthalate (DBP)	None detected (< 10)
Di-(2-ethylhexyl) phthalate (DEHP)	None detected (< 10)
Benzyl Butyl phthalate (BBP)	None detected (< 10)
Di-n-octyl phthalate (DnOP)	None detected (< 10)
Diisononyl phthalate (DINP)	None detected (< 10)
Diisodecyl phthalate (DIDP)	None detected (< 10)

Note: Phthalate concentration in finish on dry weight basis (w/w).

Table 8. DIMETHYL FUMARATE

Test Sample	DIMETHYL FUMARATE (mg/kg or ppm)
1	< 0.1 (ND)
2	< 0.1 (ND)
AVERAGE	< 0.1 (NOT DETECTED)

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Table 9. NMP CONTENT

Test Sample	NMP in Leather (1-methyl-2-pyrrolidinone) (ppm)
1	< 0.5 (ND)
2	< 0.5 (ND)
AVERAGE	< 0.5 (NOT DETECTED)

Table 10. ALKYL PHENOL AND ETHOXYLATED PHENOL (NPEO) CONTENT

Test Sample	NPEO, OPEO, OP and NP CONTENT (mg/kg)			
	OP	NP	OPEO	NPEO
1	ND	ND	ND	ND
2	ND	ND	ND	ND
AVERAGE	< 5.0 (NOT DETECTED)			

Steven D. Lange
Director

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