TEST REPORT

Technical Report: **(6719)172-0621** June 28, 2019

Date Received: June 22, 2019

DYECHEM INTERNATIOANL PVT. LTD.
ATTN: RANJEETA RAI
5 ASHU BISWAS ROAD, NEAR CHAKRABERIA SCHOOL, PADAPUKUR,
BHOWANIPUR, KOLKATA-700025, WEST BENGAL, INDIA

Sample Description: : (A) METALLIC GLD YELLOW XN PRINTED FABRIC
(B) METALLIC FOILSTAR GOLD PRINTED FABRIC
(C) GLD CHANDI PRINTED FABRIC
(Sample received in good condition)

Color:	/	Style No:	/
Order No.:	/	Item:	/
Model No.:	/	PI NO.:	/
Leather Name:	/	Product End Use:	/
Vendor:	DYECHEM INTERNATIONAL PVT. LTD.	Age Group:	/
Tannery Name:	/	Supplier:	/
Pre-testing client name:	/	Country of Origin:	/
Test Period:	June 24, 2019 to June 28, 2019	Country of Destination:	/

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
FORMALDEHYDE TEST	**PASS**	
EXTRACTABLE HEAVY METALS TEST	**PASS**	
AZO DYES CONTENT	**PASS**	
pH VALUE TEST	**PASS**	

NOTE: 1. The test has been conducted as per vendor's request.
2. Confirmation received on dated 26th June, 2019.

BUREAU VERITAS CONSUMER PRODUCTS SERVICES (INDIA) PVT. LTD.

SIGNATORIES

CHHATISH KUMAR NATH
(Dy. Manager – Analytical)

RAHUL SRIVASTAVA
(Manager – Analytical)

PLEASE CONTACT:
FOR ANY TECHNICAL ISSUES: SUMANTA KUMAR SWAIN
E. MAIL: sumanta.swain@in.bureauveritas.com **PHONE NO:** 0120-4368206/205
FOR ANY INVOICING MATTER: MR. AMIT ROY
E. MAIL: amit.roy@in.bureauveritas.com **PHONE NO:** 0120-4368200

Bureau Veritas Consumer Products Services (India) Pvt. Ltd., C-19, Sec – 7 Noida (U.P.) 201301 PH: 4368283/205

Photo of the Submitted Sample

		
A	B	C
67191720621		

TEST RESULTS

FORMALDEHYDE

Test Method : BS EN ISO 14184-1: 2011

Tested Item(s) :
A METALLIC GLD YELLOW XN PRINTED FABRIC
B METALLIC FOILSTAR GOLD PRINTED FABRIC
C GLD CHANDI PRINTED FABRIC

Maximum Limit:	**75 mg/kg**

Tested Item(s)	**Result**	**Unit**	**Conclusion**
A+B+C	ND	mg/kg	**PASS**

Note:

ND = Not detected
mg/kg = milligram per kilogram
Detection Limit (mg/kg): 5

">" = More than

Extractable Heavy Metals Content

Test Method : Artificial perspiration solution extraction according to ISO 105 E04:1996 and analyzed by Inductively Coupled Plasma Mass Spectrometer (ICP-MS) or ultraviolet-visible (UV-Vis) spectrophotometer.

Tested Item(s) :
A METALLIC GLD YELLOW XN PRINTED FABRIC
B METALLIC FOILSTAR GOLD PRINTED FABRIC
C GLD CHANDI PRINTED FABRIC

		Element (mg/kg)								
Maximum Limit:	**Class I**	**As**	**Pb**	**Cd**	**Cr**	**Co**	**Cu**	**Ni**	**Sb**	**Hg**
		0.2	**0.2**	**0.1**	**2.0**	**1.0**	**25**	**1.0 (0.5)#**	**30**	**0.02**
	Class II & III	**As**	**Pb**	**Cd**	**Cr**	**Co**	**Cu**	**Ni**	**Sb**	**Hg**
		1.0	**1.0**	**0.1**	**2.0 (200*)**	**4.0**	**50**	**4.0 (1.0)#**	**30**	**0.02**
	Class IV	**As**	**Pb**	**Cd**	**Cr**	**Co**	**Cu**	**Ni**	**Sb**	**Hg**
		1.0	**1.0**	**0.1**	**2.0 (200*)**	**4.0**	**50**	**4.0 (1.0)#**	**-**	**0.02**

-	**Unit**	**Result**		
Tested Item(s)	**-**	**A**	**B**	**C**
Parameter	**-**	**-**	**-**	**-**
Arsenic (As)	mg/kg	ND	ND	ND
Lead (Pb)	mg/kg	ND	ND	ND
Cadmium (Cd)	mg/kg	ND	ND	ND
Chromium (Cr)	mg/kg	ND	ND	ND
Cobalt (Co)	mg/kg	ND	ND	ND
Copper (Cu)	mg/kg	ND	ND	ND
Nickel (Ni)	mg/kg	0.17	0.26	ND
Antimony (Sb)	mg/kg	ND	ND	ND
Mercury (Hg)	mg/kg	ND	ND	ND
Conclusion	**-**	**PASS**	**PASS**	**PASS**

Note:

ND = Not detected
mg/kg = milligram per kilogram
Detection Limit (mg/kg):
Each (As & Cd) 0.02; Each (Co, Cr, Ni & Pb) 0.1; Each Sb 0.5; Cu 5; Hg 0.005

">" = More than

Remark:

TEST RESULTS

AZO DYES TEST

Test Method I : EN 14362-1:2017

Test Method II : ISO 17234-1:2010

Test Method III : EN 14362-3:2017 (For textile)/ ISO 17234-2:2011 (For leather)
Quantification analysis by GC-MS and confirmation by LC-DAD.

TESTED ITEM(S) : **A** METALLIC GLD YELLOW XN PRINTED FABRIC
B METALLIC FOILSTAR GOLD PRINTED FABRIC
C METALLIC GLD CHANDI PRINTED FABRIC

Maximum Limit:	**30 mg/kg**

Test Item(s)	Test Method	Result			Conclusion
		Detected Analyte(s)	Conc.	Unit	
A+B+C	I	ND	ND	**mg/kg**	**PASS**

Note: mg/kg = milligram per kilogram "<" = less than ">" = more than
Detection Limit = 5 ppm ND = not detected

Remark:

- Whenever 4-aminodiphenyl (CAS number 92-67-1), 2-naphylamine (CAS number 91-59-8) and 4-methoxy-m-phenylene-diamine (CAS number 615-05-4) is found, the use of banned azo colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorants used.
- In case polyurethane materials are used, e.g. PU foams and coatings and in prints, it cannot be ruled out that certain amines, e.g. 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) and 2,4-toluylen-diamine (TDA, CAS number 95-80-7) are released from the PU component and not from a banned azo colorant.
- In case of pigment prints care has to be taken that 4,4'-methylene-dianiline (MDA, CAS number 101-77-9) is not released from a source of banned azo colorants but from e.g. a chemical fixing agent.
- Azo colorants that are able to form p-aminoazobenzene, generate aniline and 1,4-phenylenediamine under the condition of this method. Aniline and 1,4-phenylenediamine are not detected under the condition of this method.
- The presence of these colorants cannot be confirmed by the method stated as above. The result of p-aminoazobenzene shown is analysed and confirmed by EN 14362-3/ ISO 17234-2.

pH VALUE

Test Method : ISO 3071: 2005, extraction with potassium chloride (For Textile)

Tested Item(s) : **A** METALLIC GLD YELLOW XN PRINTED FABRIC
B METALLIC FOILSTAR GOLD PRINTED FABRIC
C METALLIC GLD CHANDI PRINTED FABRIC

Maximum Limit:	**Textile: 4.0-7.5**

Tested Item(s)	Result	Unit	Conclusion
A	5.7	-	**PASS**
B	5.8	-	**PASS**
C	5.8	-	**PASS**

Note:
ND = Not detected ">" = More than

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	13	4,4'-Methylenedi-o-toluidine (3,3'-Dimethyl-4,4'-diaminodiphenylmethane)	838-88-0
2	Benzidine	92-87-5	14	p-Cresidine	120-71-8
3	4-Chloro-o-toluidine	95-69-2	15	4,4'-Methylene-bis-(2-chloraniline)	101-14-4
4	2-Naphthylamine	91-59-8	16	4,4'-Oxydianiline	101-80-4
5	o-Aminoazotoluene	97-56-3	17	4,4'-Thiodianiline	139-65-1
6	5-nitro-o-toluidine (2-Amino-4-nitrotoluene)	99-55-8	18	o-Toluidine	95-53-4
7	4-Chloroaniline (p-Chloroaniline)	106-47-8	19	4-Methyl-m-phenylenediamine (2,4-Toluenediamine)	95-80-7
8	4-Methoxy-m-phenylenediamine (2,4-Diaminoanisole)	615-05-4	20	2,4,5-Trimethylaniline	137-17-7
9	4,4'-Diaminodiphenylmethane (4,4'-Methylenedianiline)	101-77-9	21	o-Anisidine	90-04-0
10	3,3'-Dichlorobenzidine	91-94-1	22	4-Aminoazobenzene (p-Aminoazobenzene)	60-09-3
11	3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4	23	2,4-Xylidine	95-68-1
12	3,3'-Dimethylbenzidine (4,4'-Bi-o-tolidine)	119-93-7	24	2,6-Xylidine	87-62-7

END