



**TEST REPORT**

Report No.: METS-R 2616/2021

**Client / Establishment** : M/s. Moayana Technical Consultancy  
Amman, Jordan

Sample ID : METS-S21-2616  
Sample Receiving Date : 01/06/2021  
Reporting Date : 08/06/2021  
Date of Analysis : 02/06/2021-07/06/2021  
Tested by : SG/SC  
Issue No : 01 (Re-Issue Date: NA)

**Sample Information:**

Sample Description : COVERALL  
Model No. : 100  
Manufacturer : Geebee Garments  
Brand : NOMEX  
Country of Origin : UAE

**Brief Evaluation of the Results**

	Test	Compliance#
METS-S21-2616	Physico- chemical analysis	Pass

#The product complies with GSO 1956:2009, "Harmful substances used in textile products" specification limit  
The corresponding test results are furnished in following page

Prepared by

Chemist  
Advanced Science Division (ASD)  
Employee Code: METS AJ EC 145



Verified by

Team Head  
Advanced Science Division (ASD)  
Employee Code: METS AJ EC 103



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Test Results:

Parameters	Test Method	Unit	Result	Specification Limit: GSO 1956:2009
<b>Testing of Hazardous chemical:</b>				
pH value*	ISO 3071:2020	-	6.76	4.0-7.5
Formaldehyde*	ISO 14184:2011	ppm	<1.0	75 Max
<b>Extractable heavy metals*:</b>				
Antimony	GSO 1957:2009	ppm	<0.1	30 Max
Arsenic		ppm	<0.1	1.0 Max
Lead		ppm	<0.1	1.0 Max
Cadmium		ppm	<0.01	0.1 Max
Chromium		ppm	<0.1	2.0 Max
Cobalt		ppm	<0.1	4.0 Max
Copper		ppm	<0.1	50.0 Max
Nickel		ppm	<0.1	4.0 Max
Mercury		ppm	<0.01	0.02 Max
<b>Insecticides, herbicides and fungicides*:</b>				
Total Pesticide (Sum)	GSO 1957:2009	ppm	Not detected	1.0 Max
<b>Phenols (Chlorinated and OPP)*:</b>				
Pentachlorophenol (PCP)	GSO 1957:2009	ppm	Not detected	0.5 Max
2,3,5,6 Tetrachlorophenol (TeCP)		ppm	Not detected	0.5 Max
Orthophenyl phenol (OPP)		ppm	Not detected	1.0 Max
<b>PVC plasticizers (phthalates)*:</b>				
Di-iso-nonyphthalate (DINP)	GSO 1957:2009	ppm	Not detected	-
Di-n-octylphthalate (DNOP)		ppm	Not detected	-
Di-(2-ethylhexyl)-phthalate (DEHP)		ppm	Not detected	-
Di-isodecylphthalate (DIDP)		ppm	Not detected	-
Butylbenzophthalate (BBP)		ppm	Not detected	-
Dibutylphthalate (DBP)		ppm	Not detected	-
<b>Organic Tin Compounds*:</b>				
Tributyltin (TBT)	GSO 1957:2009	ppm	Not detected	Shall be absent
Dibutyltin (DBT)		ppm	Not detected	1.0 Max
<b>Colourants:</b>				
Cleavable Aryl amines*	LC-MS/MS	ppm	Not detected	Shall be absent
Carcinogens*	LC-MS/MS	ppm	Not detected	Shall be absent
Allergens*	LC-MS/MS	ppm	Not detected	1.0 Max
Chlorinated organic carrier	GSO 1957:2009	ppm	Not detected	-
Treatment with biological active substances	GSO 1957:2009	ppm	Not detected	Shall be absent





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Test Results:

Parameters	Test Method	Unit	Result	Specification Limit: GSO 1956: 2009
<b>Treatment with flame retardant substances*:</b>				
Polybrominated biphenyles (PBB)	GSO 1957:2009	ppm	Not detected	Shall be absent
Tri-(2,3-dibromopropyl)-phosphate (TRIS)		ppm	Not detected	Shall be absent
Tris-(aziridiny)-phosphin oxide) (TEPA)		ppm	Not detected	Shall be absent
<b>Determination of odour</b>	GSO 1957:2009	-	Satisfactory	No abnormal odour

**COLOR FASTNESS ANALYSIS:**

1) Colorfastness to washing\*:

Parameter	Test Method	Unit	Results	Specification Limit: GSO 1956:2009
Change in shade	ISO 105 CO6:A2S:2010	-	4-5	3
Staining on Sec. Acetate		-	4	3
Staining on Cotton		-	4	3
Staining on Nylon		-	4	3
Staining on Polyester		-	4	3
Staining on Acrylic		-	4-5	3
Staining on Wool		-	4-5	3

2) Colorfastness to rubbing\*:

Parameters	Test Method	Unit	Result	Specification Limit: GSO 1956:2009
Dry	ISO 105 X 12:2016	-	4	4
Wet		-	4	4

3) Colorfastness to perspiration\*:

Parameter	Test Method	Unit	Results		Specification Limit: GSO 1956:2009
			Acidic	Alkaline	
Change in shade	ISO 105 EO4:2013	-	4-5	4-5	3-4
Staining on Sec. Acetate		-	4	4	3-4
Staining on Cotton		-	4	4	3-4
Staining on Nylon		-	4	4	3-4
Staining on Polyester		-	4	4	3-4
Staining on Acrylic		-	4-5	4-5	3-4
Staining on Wool		-	4-5	4-5	3-4





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**Test Results:**

**4) Colorfastness to Saliva:**

Parameters	Test Method	Unit	Result	Specification Limit: GSO 1956:2009
Colorfastness to saliva	ISO 20701:2017	-	Not applicable	-

**Note:** General Fastness Ratings for Test No. 1), 2), and 3)

**For Change in Shade-** 5: Excellent; 4: Good; 3: Fair; 2: Poor and 1: Very poor

**For Staining-** 5: Negligible or no Staining; 4: Slightly Stained; 3: Noticeable stained; 2: Considerably stained and 1: Heavily stained

**Fiber composition\*:**

Parameter	Test Method	Unit	Result
Fiber identification	ISO 1833:2020/FT-IR Analysis#	%	Polyamide-100

**Note:** The major component of Polyamide consists of meta-aramid and para-aramid

**Labeling & Marking:**

Parameter	Test Method	Unit	Result
Labeling & Marking	SASO ISO 3758:2012	-	Satisfactory

Parameters	Test Method	Unit	Result	Specification Limit: GSO 1956:2009
<b>Emission of volatiles*:</b>				
Formaldehyde	GSO 1957:2009		Not applicable for the type of sample*1	
Toluene				
Styrol				
Vinyl cyclohexene				
4-phenylcyclohexene				
Butadiene				
Vinyl chloride				
Aromatic hydrocarbons				
Organic volatiles				

**Note:** \*Parameter is accredited by IAS in accordance with ISO/IEC 17025:2017

#The corresponding FT-IR graph is attached in the following page.

\*1Applicable for textile carpets, mattresses as well as foams and large coated articles.

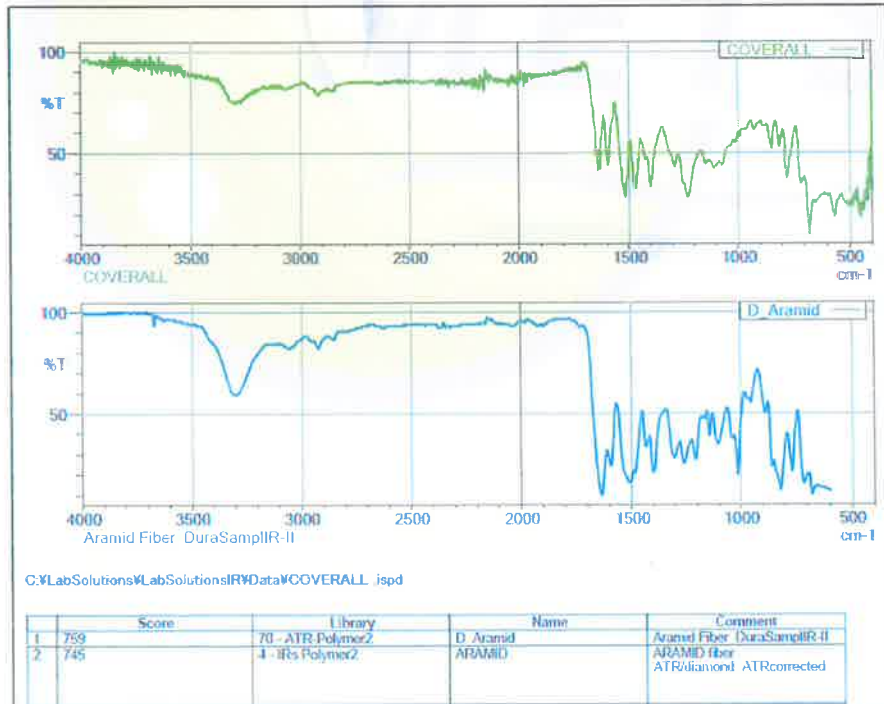


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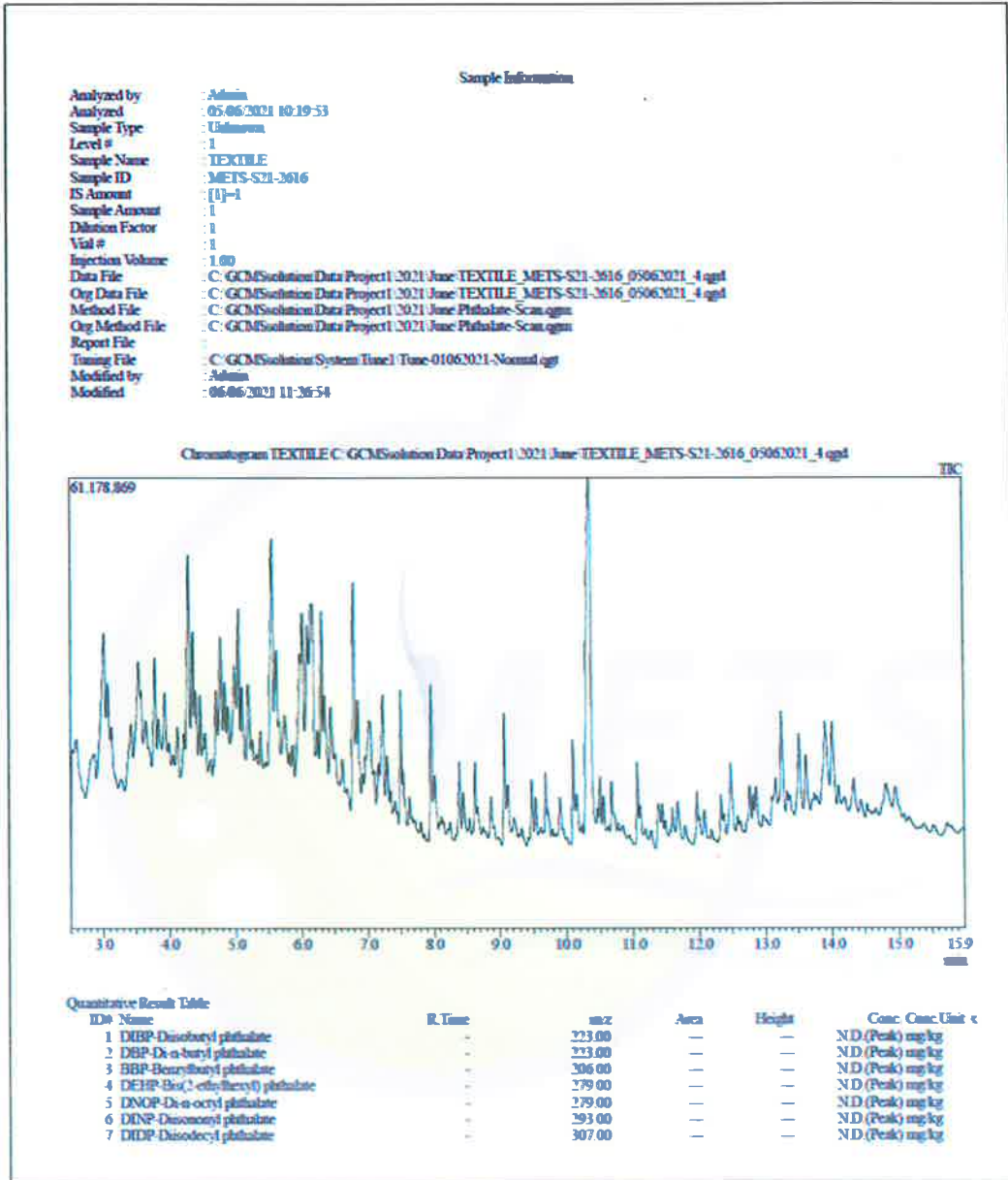
Image of tested sample

**Test Result - FTIR Analysis**



FTIR Spectrum of the tested sample





Chromatogram of Phthalates

The above test results are only applicable to the sample (s) referred above. This report shall not be reproduced except in full, without the written approval of METS laboratory.

For further clarification of reports, please contact [qc@metslab.com](mailto:qc@metslab.com)

-End of Report-

