

**TEST REPORT****REPORT NUMBER :** TURA120082832**APPLICANT NAME** **Karslıođlu Kırt. San. ve Tic. A.Ş.****ADDRESS**Davutpařa Cad. Yılanlı Ayazma Yolu Uđur Plaza No:4/B Davutpařa İstanbul TURKEY  
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**İlgili Kiři :Özer Karslıođlu (karslioglu@karslioglu.com.tr)****SAMPLE DESCRIPTION :** Brush set**BUYER :** TÜKİD**DATE IN :** 09 July, 2012 (13:59)**DATE OUT :** 20 July, 2012**PHOTO OF PRODUCT TESTED :**

| Part No | Tested Part                            |
|---------|--|
| 1       | BLACK BODY PART WITH MULTICOLOR DESIGN |
| 2       | METAL PART                             |
| 3       | BROWN BRUSH                            |
| 4       | ORANGE BRUSH                           |

Füsün Karaođlu  
CoordinatorNeslihan Sözer  
Chemical Laboratory Manager

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**Intertek Test Hizmetleri A.S.**  
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120082832

| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

RESULTS :

| Analysis Parameter     | Reference Analysis Method | PASS | FAIL | Norm Limit  | Standard for Norm Limit   | Tested Part        |
|------------------------|---------------------------|------|------|---|---|--------------------|
| Azo Dyes               | 64 LFBG B 82.02.2         | P    | -    | 30 ppm  | 2004/21/EC  | Part 1<br>Part 3-4 |
| Toxic Element Analysis | BS EN 71-3:1995           | P    | -    | Sb: 60 ppm<br>As: 25 ppm<br>Ba: 1000 ppm<br>Cd: 75 ppm<br>Cr: 60 ppm<br>Pb: 90 ppm<br>Hg: 60 ppm<br>Se: 500 ppm | EN 71-3   | Part 1-4           |
| Phthalate              | EN 14372 by GC MS         | P    | -    | DBP/DEHP/BBP :<br>1000 ppm<br>DINP/DNOP/ DIDP :<br>1000 ppm   | (27893) Notification On<br>Market Supervision And<br>Controls Regarding<br>Hazardous Chemical<br>Contents Of Some End-<br>User Products | Part 1<br>Part 3-4 |
| PAH                    | ZEK 01-08 Method          | P    | -    | Total PAH <10 ppm<br>BaP <1 ppm   | 2005/69/EC  | Part 1<br>Part 3-4 |

P = MEETS BUYER' S REQUIREMENT / F = DOES NOT MEET BUYER' S REQUIREMENT / NR = NO REQUIREMENT / SC=STILL CONTINUES / X=NOT PERFORMED

The test results relate only to the items tested. The report shall not be reproduced except in full, without the written approval of the laboratory. The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with ISO/IEC 17025 and UKAS accreditation requirements. Unless otherwise is specified, all Pass or Fail results are given without uncertainty considered. When uncertainty is taken into account, the result may be borderline. Borderline results need to be re-tested to determine their disposition up to customer's decision. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. Tests marked (\*) in this test report are not included in the UKAS accreditation schedule for this laboratory.



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| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**Azo Dyestuff**

64 LFGB 82.02.2:2004

Determination of Certain aromatic Amines derived from azo colorants followed by GC- MS Analysis

**Part 1&3&4**

1)Black body part with multicolor design

**PASS** 30 ppm

2)Composite sample of Brown brush,orange brush

**PASS** 30 ppm

**PASS** 30 ppm

**INTERPRETATION OF AZO-DYES TEST RESULTS:**

AS PER GERMAN TEST PROCEDURE FOR DETECTION OF CARCINOGENIC AMINES IN DYED MATERIALS PUBLISHED IN THE OFFICIAL COMPILATION OF TEST METHODS TEXTILE ACCORDING TO § 64 LFGB 82.02-2, LEATHER ACCORDING TO § 64 LFGB 82.02-3, PES ACCORDING TO § 64 LFGB 82.02-4, EXTRACTED BY CITRATE BUFFERED SOLUTION pH 6 AT 70 °C AND DETECTED BY GC/MS AND CONTROLLED BY HPLC/DAD AND THIN LAYER CHROMATOGRAPHIC ANALYSIS.

**FORBIDDEN AMINE**

4-AMINOBIHENYL  
 BENZIDINE  
 CHLORO-O-4-CHLOR-O-TOLUIDINE  
 2-NAPHTHYLAMINE  
 \*O-AMINOAZOTOLUENE  
 \*2-AMINO-4-NITROTOLUENE  
 P-CHLOROANILINE  
 2,4-DIAMINOANISOLE  
 4,4'-DIAMINOBIHENYLMETHANE  
 3,3'-DICHLOROBENZIDINE  
 3,3'-DIMETHOXYBENZIDINE  
 3,3'-DIMETHYLBENZIDINE  
 3,3'-DIMETHYL-4,4' DIAMINOBIHENYLMETHANE  
 P-CRESIDINE  
 4,4'-METHYLENE-BIS-(2 CHLOROANILINE)  
 4,4'-OXYDIANILINE  
 4,4'-THIODIANILINE  
 O-TOLUIDINE  
 2,4-TOLUYLENDIAMINE  
 2,4,5-TRIMETHYLANILINE  
 O-ANISIDINE  
 \*\*P-AMINOAZOBENZENE

**CAS NO**

92-67-1  
 92-87-5  
 95-69-2  
 91-59-8  
 97-56-3  
 99-55-8  
 106-47-8  
 615-05-4  
 101-77-9  
 91-94-1  
 119-90-4  
 119-93-7  
 838-88-0  
 120-71-8  
 101-14-4  
 101-80-4  
 139-65-1  
 95-53-4  
 95-80-7  
 137-17-7  
 90-04-0  
 60-09-3

**NOTE:\*** The amines o-amino-azotoluene and 2-amino-4-nitrotoluene are detected by its splitted product o-toluidine and 2,4- toluylendiamine.  
**\*\***Azo colorants that are able to form 4-aminoazobenzene, generate under the condition of this method aniline and 1,4- phenylendiamine . The presence of these colorants can not be reliably ascertained without additional information, e.g. chemical structure of the colorant used.

Remark  
 < = Less Than  
 ppm(Part per million)= mg/ kg  
 Detection Limit = 5 ppm  
 Total Uncertainty = ±10%



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| Code  | Test Method   | Result               | Requirements             |      |
|---|---------------|----------------------|--------------------------|------|
| <b>Toxic Elements Analysis</b>  |               |                      |                          |      |
| BS EN 71-3:1995 :   |               |                      |                          |      |
| Acid extraction method was used and toxic elements content were determined by Inductively Coupled Plasma-ICP_OES. |               |                      |                          |      |
|   |               | <b>RESULT IN ppm</b> | <b>PASS/FAIL</b>         |      |
|   |               |                      | <b>Requirement (ppm)</b> |      |
| Part 1  | Antimony (Sb) | <2 ppm               | PASS                     | 60   |
|   | Arsenic (As)  | <2 ppm               | PASS                     | 25   |
|   | Barium (Ba)   | 41 ppm               | PASS                     | 1000 |
|   | Cadmium (Cd)  | <2 ppm               | PASS                     | 75   |
|   | Chromium (Cr) | <5 ppm               | PASS                     | 60   |
|   | Lead (Pb)     | <5 ppm               | PASS                     | 90   |
|   | Mercury (Hg)  | <2 ppm               | PASS                     | 60   |
|   | Selenium (Se) | <2 ppm               | PASS                     | 500  |
| Part 2  | Antimony (Sb) | <2 ppm               | PASS                     | 60   |
|   | Arsenic (As)  | <2 ppm               | PASS                     | 25   |
|   | Barium (Ba)   | <2 ppm               | PASS                     | 1000 |
|   | Cadmium (Cd)  | <2 ppm               | PASS                     | 75   |
|   | Chromium (Cr) | <5 ppm               | PASS                     | 60   |
|   | Lead (Pb)     | <5 ppm               | PASS                     | 90   |
|   | Mercury (Hg)  | <2 ppm               | PASS                     | 60   |
|   | Selenium (Se) | <2 ppm               | PASS                     | 500  |
| Part 3  | Antimony (Sb) | <2 ppm               | PASS                     | 60   |
|   | Arsenic (As)  | <2 ppm               | PASS                     | 25   |
|   | Barium (Ba)   | <2 ppm               | PASS                     | 1000 |
|   | Cadmium (Cd)  | <2 ppm               | PASS                     | 75   |
|   | Chromium (Cr) | <5 ppm               | PASS                     | 60   |
|   | Lead (Pb)     | <5 ppm               | PASS                     | 90   |
|   | Mercury (Hg)  | <2 ppm               | PASS                     | 60   |
|   | Selenium (Se) | <2 ppm               | PASS                     | 500  |
| Part 4  | Antimony (Sb) | <2 ppm               | PASS                     | 60   |
|   | Arsenic (As)  | <2 ppm               | PASS                     | 25   |
|   | Barium (Ba)   | <2 ppm               | PASS                     | 1000 |
|   | Cadmium (Cd)  | <2 ppm               | PASS                     | 75   |
|   | Chromium (Cr) | <5 ppm               | PASS                     | 60   |
|   | Lead (Pb)     | <5 ppm               | PASS                     | 90   |
|   | Mercury (Hg)  | <2 ppm               | PASS                     | 60   |
|   | Selenium (Se) | <2 ppm               | PASS                     | 500  |

ppm (Part per million) =mg / kg  
 < =Less Than

(Total uncertainty=Results quoted have been corrected for uncertainty. -)



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| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**TOTAL PHTHALATE CONTENT**

EN 14372 : 2004 Method By Gas Chromatographic-Mass Spectrometric (GC-MS) Analysis :

| Part 1                         | RESULT (%, w/w)       |
|--------------------------------|-----------------------|
| DIBUTYL PHTHALATE (DBP)        | Not Detected          |
| DIETHYL HEXYL PHTHALATE (DEHP) | Not Detected          |
| BENZYL BUTYL PHTHALATE (BBP)   | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |
|                                |                       |
|                                | RESULT (%, w/w)       |
| DI-ISO-NONYL PHTHALATE (DINP)  | Not Detected          |
| DI-N-OCTYL PHTHALATE (DNOP)    | Not Detected          |
| DI-ISO-DECYL PHTHALATE (DIDP)  | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |

REMARK =The Above Limit Was Quoted According To The EEC Directive 2005/84/EC On 14 December 2005.

ppm (part per million) =mg / kg  
 Detection Limit =10 ppm  
 < =Less Than  
 \* =EXCEEDED LIMIT

(Total Uncertainty=±5 %)



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| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**TOTAL PHTHALATE CONTENT**

EN 14372 : 2004 Method By Gas Chromatographic-Mass Spectrometric (GC-MS) Analysis :

| Part 3                         | RESULT (%. w/w)       |
|--------------------------------|-----------------------|
| DIBUTYL PHTHALATE (DBP)        | Not Detected          |
| DIETHYL HEXYL PHTHALATE (DEHP) | Not Detected          |
| BENZYL BUTYL PHTHALATE (BBP)   | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |
|                                |                       |
|                                | RESULT (%. w/w)       |
| DI-ISO-NONYL PHTHALATE (DINP)  | Not Detected          |
| DI-N-OCTYL PHTHALATE (DNOP)    | Not Detected          |
| DI-ISO-DECYL PHTHALATE (DIDP)  | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |

REMARK =The Above Limit Was Quoted According To The EEC Directive 2005/84/EC On 14 December 2005.

ppm (part per million) =mg / kg  
 Detection Limit =10 ppm  
 < =Less Than  
 \* =EXCEEDED LIMIT

(Total Uncertainty=±5 %)



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| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**TOTAL PHTHALATE CONTENT**

EN 14372 : 2004 Method By Gas Chromatographic-Mass Spectrometric (GC-MS) Analysis :

| Part 4                         | RESULT (%. w/w)       |
|--------------------------------|-----------------------|
| DIBUTYL PHTHALATE (DBP)        | Not Detected          |
| DIETHYL HEXYL PHTHALATE (DEHP) | Not Detected          |
| BENZYL BUTYL PHTHALATE (BBP)   | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |
|                                |                       |
|                                | RESULT (%. w/w)       |
| DI-ISO-NONYL PHTHALATE (DINP)  | Not Detected          |
| DI-N-OCTYL PHTHALATE (DNOP)    | Not Detected          |
| DI-ISO-DECYL PHTHALATE (DIDP)  | Not Detected          |
| SUM OF THREE PHTHALATES        | Not Detected          |
| LIMIT (MAX.)                   | 1000 ppm (0.1% (w/w)) |

REMARK =The Above Limit Was Quoted According To The EEC Directive 2005/84/EC On 14 December 2005.

ppm (part per million) =mg / kg  
 Detection Limit =10 ppm  
 < =Less Than  
 \* =EXCEEDED LIMIT

(Total Uncertainty=±5 %)



2111

| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**Polycyclic Aromatic Hydrocarbons (PAHs) Analysis**

IHTM AL.2.032 ZEK 01-08 :

Harmonisierte Methode zur Bestimmung von polycyclischen aromatischen Kohlenwasserstoffen (PAK) in Kunststoffproben ZEK 01-08 AS SOLVENT EXTRACTION AND FOLLOWED BY GAS CHROMATOGRAPHY MASS SPECTROMETRIC (GC/MS) ANALYSIS

| Part 1                          | RESULT (ppm) |                          |
|---------------------------------|--------------|--------------------------|
| NAPHTHALENE                     | Not Detected | Category 2               |
| ACENAPHTHYLENE                  | Not Detected | Total 18 PAH : 10 mg/kg  |
| ACENAPHTHEN                     | Not Detected | Benzo(a)pyrene : 1 mg/kg |
| FLUORENE                        | Not Detected |                          |
| PHENANTHRENE                    | Not Detected |                          |
| ANTHRACENE                      | Not Detected |                          |
| FLUORANTHENE                    | Not Detected |                          |
| PYRENE                          | Not Detected |                          |
| BENZO (a) ANTHRACENE            | Not Detected |                          |
| CHRYSENE                        | Not Detected |                          |
| BENZO (b) FLUORANTHENE          | Not Detected |                          |
| BENZO (k) FLUORANTHENE          | Not Detected |                          |
| BENZO (a) PYRENE                | Not Detected |                          |
| INDENO (1,2,3-cd) PYRENE        | Not Detected |                          |
| DIBENZO (a,h) ANTHRACENE        | Not Detected |                          |
| BENZO (ghi) PERYLENE            | Not Detected |                          |
| BENZO(i)FLUORANTHENE            | Not Detected |                          |
| BENZO(e)PYRENE                  | Not Detected |                          |
| ----                            |              |                          |
| SUM (18 PAH):                   | Not Detected |                          |
| ppm (part per million) =mg / kg |              |                          |
| Detection Limit = 0.1 ppm       |              |                          |
| n.d. = Not Detected             |              |                          |

(Total Uncertainty=±3% )



2111



| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**Polycyclic Aromatic Hydrocarbons (PAHs) Analysis**

IHTM AL.2.032 ZEK 01-08 :

Harmonisierte Methode zur Bestimmung von polycyclischen aromatischen Kohlenwasserstoffen (PAK) in Kunststoffproben ZEK 01-08 AS SOLVENT EXTRACTION AND FOLLOWED BY GAS CHROMATOGRAPHY MASS SPECTROMETRIC (GC/MS) ANALYSIS

| Part 3                          | RESULT (ppm) |                          |
|---------------------------------|--------------|--------------------------|
| NAPHTHALENE                     | Not Detected | Category 2               |
| ACENAPHTHYLENE                  | Not Detected | Total 18 PAH : 10 mg/kg  |
| ACENAPHTHEN                     | Not Detected | Benzo(a)pyrene : 1 mg/kg |
| FLUORENE                        | Not Detected |                          |
| PHENANTHRENE                    | Not Detected |                          |
| ANTHRACENE                      | Not Detected |                          |
| FLUORANTHENE                    | Not Detected |                          |
| PYRENE                          | Not Detected |                          |
| BENZO (a) ANTHRACENE            | Not Detected |                          |
| CHRYSENE                        | Not Detected |                          |
| BENZO (b) FLUORANTHENE          | Not Detected |                          |
| BENZO (k) FLUORANTHENE          | Not Detected |                          |
| BENZO (a) PYRENE                | Not Detected |                          |
| INDENO (1,2,3-cd) PYRENE        | Not Detected |                          |
| DIBENZO (a,h) ANTHRACENE        | Not Detected |                          |
| BENZO (ghi) PERYLENE            | Not Detected |                          |
| BENZO(i)FLUORANTHENE            | Not Detected |                          |
| BENZO(e)PYRENE                  | Not Detected |                          |
| ----                            |              |                          |
| SUM (18 PAH):                   | Not Detected |                          |
| ppm (part per million) =mg / kg |              |                          |
| Detection Limit = 0.1 ppm       |              |                          |
| n.d. = Not Detected             |              |                          |

(Total Uncertainty=±3% )



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| Code | Test Method | Result | Requirements |
|------|-------------|--------|--------------|
|------|-------------|--------|--------------|

**Polycyclic Aromatic Hydrocarbons (PAHs) Analysis**

IHTM AL.2.032 ZEK 01-08 :

Harmonisierte Methode zur Bestimmung von polycyclischen aromatischen Kohlenwasserstoffen (PAK) in Kunststoffproben ZEK 01-08 AS SOLVENT EXTRACTION AND FOLLOWED BY GAS CHROMATOGRAPHY MASS SPECTROMETRIC (GC/MS) ANALYSIS

| Part 4                          | RESULT (ppm) |                          |
|---------------------------------|--------------|--------------------------|
| NAPHTHALENE                     | Not Detected | Category 2               |
| ACENAPHTHYLENE                  | Not Detected | Total 18 PAH : 10 mg/kg  |
| ACENAPHTHEN                     | Not Detected | Benzo(a)pyrene : 1 mg/kg |
| FLUORENE                        | Not Detected |                          |
| PHENANTHRENE                    | Not Detected |                          |
| ANTHRACENE                      | Not Detected |                          |
| FLUORANTHENE                    | Not Detected |                          |
| PYRENE                          | Not Detected |                          |
| BENZO (a) ANTHRACENE            | Not Detected |                          |
| CHRYSENE                        | Not Detected |                          |
| BENZO (b) FLUORANTHENE          | Not Detected |                          |
| BENZO (k) FLUORANTHENE          | Not Detected |                          |
| BENZO (a) PYRENE                | Not Detected |                          |
| INDENO (1,2,3-cd) PYRENE        | Not Detected |                          |
| DIBENZO (a,h) ANTHRACENE        | Not Detected |                          |
| BENZO (ghi) PERYLENE            | Not Detected |                          |
| BENZO(i)FLUORANTHENE            | Not Detected |                          |
| BENZO(e)PYRENE                  | Not Detected |                          |
| ----                            |              |                          |
| SUM (18 PAH):                   | Not Detected |                          |
| ppm (part per million) =mg / kg |              |                          |
| Detection Limit = 0.1 ppm       |              |                          |
| n.d. = Not Detected             |              |                          |

(Total Uncertainty=±3% )

## END OF TEST REPORT ##



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