

Request Number	Not Applicable
Receipt Number	22/3991
Receipt date	08/02/22
Test begin - end date	08/02/22 - 11/02/22
Document issued on	11/02/22

SAMPLE IDENTIFICATION (#):
A Atomic Green. VIKING BY DYNAMIC
THIS DOCUMENT CONTAINS THE FOLLOWING TESTS:

Code	Test	Test Method
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	MIP_CE0038_rev1:2021
CE0073 *	Tattoos Inks and PMU: determination of certain aromatic amines	MIP_CE0073_rev0:2021 - ref. Reg. (EU) 2020/2081
CE0082	Tattoo Inks, PMU and polymers: Determination of Polycyclic Aromatic Hydrocarbon	AfPS GS 2019:01

General Remarks

Results refer exclusively to the materials presented by the Client as received; TIL does not carry out withdrawals and / or samplings and, therefore, any representativeness of the analyzed material, also with respect to lots, is exclusive responsibility of the customer.

(#) Data provided by the Client. Moreover, when information is provided by the Client and can influence the validity of the results, the Laboratory declines all responsibilities.

The expanded uncertainty, available on request, is calculated with a coverage factor $k=2$ for a confidence level of 95%.

For qualitative tests, or tests where final result is assessed by numerical indexes, the expanded uncertainty is not applicable.

Materials delivered to TIL will be kept available to the Customer for a period of 3 (three) months after completion of the Services; after this period all materials will be disposed of by TIL.

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Decision rule

Unless otherwise requested by the customer, for physical-mechanical tests, flammability tests and fastness tests, Laboratory defines the Pass/Fail assessment not taking into account the uncertainty associated to the measurement result. Uncertainty of method is available on request.

For all other types of tests, where the decision rule is not defined within the test method, laboratory use a decision rule based on "guard band" approach. The rule is described in the "conformity analysis" procedure adopting a coverage factor K unilateral equal to 1,645 for a confidence level of 95%.

* Test not accredited by ACCREDIA

Technical Manager

Giuseppe Bartolini



TIL TEST & INNOVATION LAB S.r.l. with single shareholder company

subject to the direction and coordination of KERING HOLLAND NV, company registered in the Netherlands with headquarters in Amsterdam

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Mod.018 Rev .2 del 19.10.2021

Begin of Test Report

CE0038 **Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)**

Test methods **MIP_CE0038_rev1:2021**

Rev. 0 del 06/04/2020

Testing conditions Total Metals: Acid digestion - microwave oven / Soluble metals: water extraction
Testing equipment ICP-MS / HPLC-DAD
Testing date 09/02/2022

Sample identification **Atomic Green. VIKING BY DYNAMIC**

Heavy metals		Results mg/kg	LOQ -Limit of quantification mg/kg	Concentrazione massima ammessa Regolamento UE 2020/2081 mg/kg
As	Arsenic	< LOQ	0,4	0,5
Ba	Barium (soluble)	< LOQ	0,4	500
Cd	Cadmium	< LOQ	0,4	0,5
Co	Cobalt	< LOQ	0,4	0,5
Cr6	Chromium VI	< LOQ	0,3	0,5
Cu	Copper (soluble)	< LOQ	0,4	250
Hg	Mercury	< LOQ	0,4	0,5
Ni	Nickel	< LOQ	0,4	5
Pb	Lead	< LOQ	0,4	0,7
Se	Selenium	< LOQ	0,4	2
Sb	Antimony	< LOQ	0,4	0,5
Sn	Organometallic tin	< LOQ	0,4	0,5
Zn	Zinc (soluble)	< LOQ	0,4	2000

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CE0073	Tattoos Inks and PMU: determination of certain aromatic amines
Test methods	MIP_CE0073_rev0:2021 - ref. Reg. (EU) 2020/2081

Rev. 0 del 06/04/2020

Testing conditions Amines classified as soluble: methanol extraction / others: buffer extraction with ref. to ISO 14362-1 / ISO 17234-1 and reductive cleavage
Testing equipment GC-MSMS / LC-MSMS
Testing date 11/02/2022

Sample identification	Atomic Green. VIKING BY DYNAMIC
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SUBSTANCE	CAS N.	Quantification Limit (LOQ)	Result
<i>p</i> -Phenylenediamine (as soluble)	106-50-3	1 mg/kg	< LOQ
2,4,5-trimethylaniline (as soluble)	137-17-7 / 21436-97-5	1 mg/kg	< LOQ
2,4-xylidine	95-68-1	1 mg/kg	< LOQ
2,6-xylidine	87-62-7	1 mg/kg	< LOQ
2-naphtylamine (as soluble)	91-59-8 / 553-00-4	1 mg/kg	< LOQ
3,3'-dichlorobenzidine (as soluble)	91-94-1	1 mg/kg	< LOQ
4,4'-methylenedi-o-toluidine (as soluble)	838-88-0	1 mg/kg	< LOQ
3,3-dimethylbenzidine (as soluble)	119-93-7	1 mg/kg	< LOQ
3,3'-dimethoxybenzidine (as soluble)	119-90-4	1 mg/kg	< LOQ
4-methyl-m-phenylenediamine (as soluble)	95-80-7	1 mg/kg	< LOQ
4,4'-methylene-bis-(2-chloro-aniline) (as soluble)	101-14-4	1 mg/kg	< LOQ
4,4'-oxydianiline (as soluble)	101-80-4	1 mg/kg	< LOQ
4,4'-thiodianiline (as soluble)	139-65-1	1 mg/kg	< LOQ
4-aminobiphenyl (as soluble)	92-67-1	1 mg/kg	< LOQ
4-aminoazobenzene (as soluble)	60-09-3	1 mg/kg	< LOQ
4-chloroaniline (as soluble)	106-47-8	1 mg/kg	< LOQ
4-chloro-o-toluidine (as soluble)	95-69-2 / 3165-93-3	1 mg/kg	< LOQ
4,4'-diaminodiphenylmethane (as soluble)	101-77-9	1 mg/kg	< LOQ
4-methoxy-m-phenylenediamine (as soluble)	615-05-4 / 39156-41-7	1 mg/kg	< LOQ
5-nitro-o-toluidine (as soluble)	99-55-8	1 mg/kg	< LOQ
Aniline (as soluble)	62-53-3	1 mg/kg	< LOQ
benzidine (as soluble)	92-87-5	1 mg/kg	< LOQ
o-aminoazotoluene (as soluble)	97-56-3	1 mg/kg	< LOQ
o-anisidine (as soluble)	90-04-0	1 mg/kg	< LOQ
o-toluidine (as soluble)	95-53-4	1 mg/kg	< LOQ
<i>p</i> -cresidine (as soluble)	120-71-8	1 mg/kg	< LOQ
4-amino-3-fluorophenol (as soluble)	399-95-1	1 mg/kg	< LOQ
6-amino-2-ethoxynaphthalene	293733-21-8	1 mg/kg	< LOQ
2-methyl- <i>p</i> -phenylenediamine (as soluble)	95-70-5	1 mg/kg	< LOQ
sulfanilic acid (as soluble)	121-57-3	1 mg/kg	< LOQ
<i>p</i> -Toluidine (as soluble)	106-49-0	1 mg/kg	< LOQ

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Mod.018 Rev .2 del 19.10.2021

CE0082	Tattoo Inks, PMU and polymers: Determination of Polycyclic Aromatic Hydrocarbon
Test methods	AfPS GS 2019:01

Rev. 0 del 06/04/2020

Testing conditions organic solvent extraction - ultrasonic bath
 Testing equipment GC-MSMS
 Testing date 11/02/2022

Sample identification	Atomic Green. VIKING BY DYNAMIC
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SUBSTANCE	CAS N.	Quantification Limit (LOQ)	Result
Naphtalene	91-20--3	0,05 mg/kg	< LOQ
Acenaphthylene	208-96-8	0,05 mg/kg	< LOQ
Acenaftene	83-32-9	0,05 mg/kg	< LOQ
Fluorene	86-73-7	0,05 mg/kg	< LOQ
Phenanthrene	85-01-8	0,05 mg/kg	< LOQ
Anthracene	120-12-7	0,05 mg/kg	< LOQ
Fluoranthene	206-44-0	0,05 mg/kg	< LOQ
Pyrene	129-00-0	0,05 mg/kg	< LOQ
Crysene	218-01-9	0,05 mg/kg	< LOQ
Benzo(a)Anthracene	56-55-3	0,05 mg/kg	< LOQ
Benzo[b]fluoranthene	205-99-2	0,05 mg/kg	< LOQ
Benzo[k]Fluoranthene	207-08-9	0,05 mg/kg	< LOQ
Benzo[e]Pyrene	192-97-2	0,05 mg/kg	< LOQ
Benzo(a)Pyrene	50-32-8	0,005 mg/kg	< LOQ
Perylene	198-55-0	0,05 mg/kg	< LOQ
Indeno(1,2,3-cd)Pyrene	193-39-5	0,05 mg/kg	< LOQ
Dibenzo(a,h) Anthracene	53-70-3	0,05 mg/kg	< LOQ
Benzo(g,h,i)Perylene	191-24-2	0,05 mg/kg	< LOQ
Dibenzo(a,l)Pyrene	191-30-0	0,05 mg/kg	< LOQ
Dibenzo(a,e)Pyrene	192-65-4	0,05 mg/kg	< LOQ
Dibenzo(a,i)Pyrene	189-55-9	0,05 mg/kg	< LOQ
Dibenzo(a,h)Pyrene	189-64-0	0,05 mg/kg	< LOQ
Benzo[j]fluoranthene	205-82-3	0,05 mg/kg	< LOQ
Total amount			< LOQ

End of Test Report

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