





TEST REPORT N° 22/05356

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Mod.018 Rev .2 del 19.10.2021

Request Number	Not Applicable
Receipt Number	22/5109
Receipt date	15/02/22
Test begin - end date	15/02/22 - 22/02/22
Document issued on	22/02/22

SAMPLE IDENTIFICATION (#):

A Candy Apple Red. 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 Polyciclic 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

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Summary Results Evaluation based on PRSL	
Compliance to Regulation EU 2020/2081	

Rev. 1 del 30/11/2019

Item	Sample	Pass	Fail
Α	Candy Apple Red. VIKING BY DYNAMIC	67 Pass	

Evaluation Results Sample

Candy Apple Red. VIKING BY DYNAMIC

Rev. 1 del 30/11/2019

Item	Test Method	Parameter	Limits	Value	P/F
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Antimony	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Arsenic	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Barium (soluble)	<=500	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Cadmium	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Chromium VI	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Cobalt	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Copper (soluble)	<=250	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Lead	<=0,7	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Mercury	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Nickel	<=5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Organometallic tin	<=0,5	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Selenium	<=2	Not Detectable	PASS
CE0038	Tattoos inks and PMU: determination of heavy metals (reg. UE 2020/2081)	Zinc (soluble)	<=2000	Not Detectable	PASS

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CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	2,4,5-trimethylaniline (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	2,4-xylidine	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	2,6-xylidine	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	2-methyl-p- phenylendiamine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	2-naphtylamine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	3,3'-dichlorobenzidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	3,3'-dimethoxybenzidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	3,3-dimethylbenzidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4,4'- diaminodiphenylmethane (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4,4'-methylene-bis-(2- chloro-aniline) (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4,4'-methylenedi-o-toluidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4,4'-oxydianiline (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4,4'-thiodianiline (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-amino-3-fluorophenol (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-aminoazobenzene (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-aminobiphenyl (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-chloroaniline (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-chloro-o-toluidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-methoxy-m- phenylenediamine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	4-methyl-m- phenylenediamine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	5-nitro-o-toluidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	6-amino-2- ethoxynaphthalene	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	Aniline (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	benzidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	o-aminoazotoluene (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	o-anisidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	o-toluidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	p-cresidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	p-Phenylenediamine (as soluble)	<=5	Not Detectable	PASS
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CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	p-Toluidine (as soluble)	<=5	Not Detectable	PASS
CE0073	Tattoos Inks and PMU: determination of certain aromatic amines	sulfanilic acid (as soluble)	<=5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Acenaftene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Acenaphtylene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Anthracene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo(a)Anthracene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo(a)Pyrene	<=0,005	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo(g,h,i)Perylene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo[b]fluoranthene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo[e]Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo[j]fluoranthene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Benzo[k]Fluoranthene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Crysene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Dibenzo(a,e)Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Dibenzo(a,h) Anthracene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Dibenzo(a,h)Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Dibenzo(a,i)Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Dibenzo(a,l)Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Fluoranthene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Fluorene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Indeno(1,2,3-cd)Pyrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Naphtalene	<=0,5	Not Detectable	PASS

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CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Perylene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Phenanthrene	<=0,5	Not Detectable	PASS
CE0082	Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic Hydrocarbon	Pyrene	<=0,5	Not Detectable	PASS







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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

18/02/2022

Sample identification

Candy Apple Red. VIKING BY DYNAMIC

Heavy metals		Results mg/kg	LOQ -Limit of quantification mg/kg	Maximum allowed concentration Regulation UE 2020/2081 mg/kg
As	Arsenic	< LOQ	0,4	0,5
Ва	Barium (soluble)	< LOQ	0,4	500
Cd	Cadmium	< LOQ	0,4	0,5
Со	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

18/02/2022

Sample	identification

Candy Apple Red. VIKING BY DYNAMIC

SUBSTANCE	CAS N.	Quantification Limit (LOQ)	Result
p-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







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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
p-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-p-phenylendiamine (as soluble)	95-70-5	1 mg/kg	< LOQ
sulfanilic acid (as soluble)	121-57-3	1 mg/kg	< LOQ
p-Toluidine (as soluble)	106-49-0	1 mg/kg	< LOQ







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Tattoo Inks, PMU and polymers: Determination of Polyciclic Aromatic CE0082

Hydrocarbon

AfPS GS 2019:01 Test methods

Rev. 0 del 06/04/2020

Testing conditions organic solvent extraction - ultrasonic bath

Testing equipment **GC-MSMS** Testing date 22/02/2022

Candy Apple Red. VIKING BY DYNAMIC Sample identification

SUBSTANCE	CAS N.	Quantification Limit (LOQ)	Result
Naphtalene	91-203	0,05 mg/kg	< LOQ
Acenaphtylene	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

< LOQ Total amount

End of Test Report

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