CTL® GmbH
CHEMICAL-TECHNOLOGICAL LABORATORY

CTL® GmbH | Chemical-Technological Laboratory
Krackser Straße 12 | 33659 Bielefeld | Germany

WORLD FAMOUS TATTOO INK
460-A Greenway Industrial Drive
Fort Mill, SC 29708
USA

CTL® no	385792+386644+386832+387736
[Test date]	03.12.2018/13.02.2019/08.03.2019
[Service date]	02.04.2019

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Certificate

[Article]	Tattoo colour
[Brand]	World Famous Tattoo Ink
[Colour/product code]	Algrave Aqua / WFAA
[Test]	Aromatic amines and carcinogens acc. to CoE Resolution ResAP(2008)1: Part 1a, Part 1b

Part 1a
Testing of aromatic amines with carcinogenic, mutagenic, reprotoxic and sensitising properties according to CoE Resolution ResAP(2008)1
Detection limit: 1 ppm; limit: as low as technically avoidable

DIN EN 14362, § 64 LFGB 82.02-2,3,4,9
GC/MS analysis
HPLC analysis

Amount (ppm)	Amine	EC no	CAS no	Amount (ppm)	Amine	EC no	CAS no
—	Biphenyl-4-ylamine	202-177-1	92-67-1	—	3,3'-Dimethoxybenzidine	204-355-4	119-90-4
—	Benzidine	202-199-1	92-87-5	—	3,3'-Dimethylbenzidine	204-358-0	119-93-7
—	4-Chloro-o-toluidine	202-411-6	95-69-2	—	4,4'-Methylenedi-o-toluidine	212-658-8	838-88-0
—	2-Naphthylamine	202-080-4	91-59-8	—	6-Methoxy-m-toluidine	204-419-1	120-71-8
—	o-Aminoazotoluene	202-591-2	97-56-3	—	4,4'-Methylenebis-(2-chloroaniline)	202-918-9	101-14-4
—	5-Nitro-o-toluidine	202-765-8	99-55-8	—	4-Methyl-m-phenylenediamine	202-453-1	95-80-7
—	4-Chloroaniline	203-401-0	106-47-8	—	o-Anisidine	201-963-1	90-04-0
—	4-Methoxy-m-phenylenediamine	210-406-1	615-05-4	—	4-Aminoazobenzene	200-453-6	60-09-3
—	4,4'-Methylenedianiline	202-974-4	101-77-9	—	6-Amino-2-ethoxynaphthaline	—	293733-21-8
—	3,3'-Dichlorobenzidine	202-109-0	91-94-1	—	4-Amino-3-fluorophenol	418-230-9	399-95-1

Part 1b
Testing of carcinogens classified in categories 1, 2 and 3 by the European Commission and mentioned in the Council Directive 1967/548/EEC of 27 June 1967 according to CoE Resolution ResAP(2008)1
Detection limit: 1 ppm

DIN EN 14362, § 64 LFGB 82.02-2,3,4,9
GC/MS analysis
HPLC analysis

Amount (ppm)	Amine	EC no	CAS no	Amount (ppm)	Amine	EC no	CAS no
—	4,4'-Oxydianiline	202-977-0	101-80-4	—	Para-phenylenediamine	2003-404-7	106-50-3
—	4,4'-Thiodianiline	205-370-9	139-65-1	—	2,4 Xylidine	—	95-68-1
—	o-Toluidine	202-429-0	95-53-4	—	2,6 Xylidine	—	87-62-7
—	2,4,5-Trimethylaniline	205-282-0	137-17-7				

BIELEFELD, 02. APRIL 2019

Helmut Meyer (Lab manager)

(---) = below detection limit

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Certificate

[Article]	Tattoo colour
[Brand]	World Famous Tattoo Ink
[Colour/product code]	Algrave Aqua / WFAA
[Test]	Dyestuffs acc. to CoE Resolution ResAP(2008)1: Part 2

Part 2
Testing of dyestuffs according to CoE Resolution ResAP(2008)1
Detection limit: 5 mg/l

DIN 54231 in the up-to-date legislation
GC/MS analysis
HPLC analysis
TLC analysis

Amount (ppm)	Colourant	CI no	CAS no	Amount (ppm)	Colourant	CI no	CAS no
---	Acid Green 16	44025	12768-78-4	---	Disperse Orange 37		12223-33-5
---	Acid Red 26	16150	3761-53-3	---	Disperse Red 1	11110	2872-52-8
---	Acid Violet 17	42650	4129-84-4	---	Disperse Red 17	11210	3179-89-3
---	Acid Violet 49	42640	1694-09-3	---	Disperse Yellow 3	11855	2832-40-8
---	Acid Yellow 36	13065	587-98-4	---	Disperse Yellow 9	10375	6373-73-5
---	Basic Blue 7	42595	2390-60-5	---	Pigment Orange 5	12075	3468-63-1
---	Basic Green 1	42040	633-03-4	---	Pigment Red 53	15585	2092-56-0
---	Basic Red 1	45160	989-38-8	---	Pigment Violet 3	42535:2	1325-82-2
---	Basic Red 9	42500	569-61-9	---	Pigment Violet 39	42555:2	64070-98-0
---	Basic Violet 1	42535	8004-87-3	---	Solvent Blue 35	61554	17354-14-2
---	Basic Violet 10	45170	81-88-9	---	Solvent Orange 7	12140	3118-97-6
---	Basic Violet 3	42555	548-62-9	---	Solvent Red 24	26105	85-83-6
---	Disperse Blue 1	64500	2475-45-8	---	Solvent Red 49	45170:1	509-34-2
---	Disperse Blue 106		12223-01-7	---	Solvent Violet 9	42555:1	467-63-0
---	Disperse Blue 124		61951-51-7	---	Solvent Yellow 1	11000	60-09-3
---	Disperse Blue 3	61505	2475-46-9	---	Solvent Yellow 2	11020	60-11-7
---	Disperse Blue 35		12222-75-2	---	Solvent Yellow 3	11160	97-56-3
---	Disperse Orange 3	11005	730-40-5				

BIELEFELD, 02. APRIL 2019

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Certificate

[Article]	Tattoo colour
[Brand]	World Famous Tattoo Ink
[Colour/product code]	Algrave Aqua / WFAA
[Test]	Heavy Metals acc. to CoE Resolution ResAP(2008)1: Part 3

Part 3 Testing of heavy metals according to CoE Resolution ResAP(2008)1				**Method: Prior, G. (2014). Tattoo Inks: Analysis, Pigments, Legislation. Berlin: epubli. CTL method 2, p. 83.**			
Amount (ppm)	Elements or compound	Limit (ppm)	Detection limit (ppm)	Amount (ppm)	Elements or compound	Limit (ppm)	Detection limit (ppm)
< 1	Arsenic (As)	≤ 2	1	< 0.1	Nickel (Ni)	As low as technically achievable	0.1
< 5	Barium (Ba)	≤ 50	5	< 1	Lead (Pb)	≤ 2	1
< 0.1	Cadmium (Cd)	≤ 0.2	0.1	< 1	Selenium (Se)	≤ 2	1
< 5	Cobalt (Co)	≤ 25	5	< 1	Antimony (Sb)	≤ 2	1
< 0.1	Chromium (Cr), VI	≤ 0.2	0.1	< 5	Tin (Sn)	≤ 50	5
< 5	Copper (Cu), soluble	≤ 25	5	< 5	Zinc (Zn)	≤ 50	5
< 0.1	Mercury (Hg)	≤ 0.2	0.1				

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Certificate

[Article]	Tattoo colour
[Brand]	World Famous Tattoo Ink
[Colour/product code]	Algrave Aqua / WFAA
[Test]	PAH and BaP acc. to CoE Resolution ResAP(2008)1: Part 4

Part 4
Testing of Polycyclic Aromatic Hydrocarbons (PAH) and Benzo-a-Pyrene (BaP) according to CoE Resolution ResAP(2008)1
Detection limit: PAH: 0.05 ppm as total; Benzo-a-pyrene: 0.5 ppb
Limit: PAH: 0.5 ppm as total; Benzo-a-pyrene: 5 ppb

EPA, ZEK 2008-01

Amount (ppm)	Elements or compound	Amount (ppm)	Elements or compound
---	Naphthalene	---	Benz(a)anthracene
---	Acenaphthylene	---	Chrysene
---	Acenaphthene	---	Benzo(b)fluoranthene
---	Fluorene	---	Benzo(k)fluoranthene
---	Phenanthrene	---	Dibenzo(a,h)anthracene
---	Anthracene	---	Indo (1,2,3-cd)pyrene
---	Fluoranthene	---	Benzo(g,h,i)perylene
---	Pyrene	---	Benzo-a-pyrene (BaP)

Result as total: all below detection limit

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Helmut Meyer (lab manager)

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[Article]	Tattoo colour
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[Colour/product code]	Algrave Aqua / WFAA
[Test]	Sterility acc. to CoE Resolution ResAP(2008)1; ASU §64 LFGB L59.00-4;- L06.00-18: Part 5
	tested on a single representative sample

Part 5 Testing of sterility Detection limit: 1.0 x 10^1 CFU/g	
	Results
Microbiological test: pseudomonads = King A, King B, Oxidase test acc. to CoE ResAP(2008)1	< 1.0 x 10^1 CFU/g
Anaerobes sulfite-reducing sporulating bacteria acc. to ASU §64 LFGB L59.00-4	< 1.0 x 10^1 CFU/g
Aerobes mesophilic sporulating bacteria acc. to ASU §64 LFGB L06.00-18	< 1.0 x 10^1 CFU/g

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