



CTL® GmbH
CHEMICAL & TECHNOLOGICAL LABORATORY

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

Perma Blend
460A Greenway Industrial Drive
Fort Mill, SC 29708
USA

CTL® no 365573+365792+366993

[Order date] —

[Date received] —

[Service date] 03.12.2018

tattoo lab.eu

Certificate

[Article] Permanent cosmetic pigment

[Brand] Perma Blend

[Colour/product code] Pumpkin / PBPK

[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'-Methylened-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	99-56-8	—	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-Aminozobenzene	200-453-6	60-09-3
—	4,4'-Methylenedianiline	202-974-4	101-77-9	—	6-Amino-2-ethoxynaphthalene	—	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 Xyldine	—	95-66-1
—	o-Toluidine	202-429-0	95-53-4	—	2,6 Xyldine	—	87-62-7
—	2,4,5-Trimethylaniline	205-282-0	137-17-7				

BIELEFELD, 03. DECEMBER 2018

Helmut Meyer (Lab manager)

[Signature]

[Signature] The original results are only valid for the tested sample.

The validity of the certificate is 2 years.

[Address] Krackser Strasse 12
33659 Bielefeld, GERMANY
[Managing Director] Kerry-Luise Prior
[Based in] Bielefeld
[Register of Companies] AG Bielefeld, HRB 35-412
[VAT ID No] DE 176 26 5000

[Phone] +49 521 400 82 89 0
[Email] sekretariat@ctl-malis.de
[Homepage] ctl-bielefeld.de
tattoolab.eu

[Bank] Sparkasse Gütersloh
Konrad-Adenauer-Platz 1
33330 Gütersloh, GERMANY
[SWIFT/BIC] WELADED1GTL
[IBAN] DE 87 47950065 000 4005345



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[Test] Dyesluffs acc. to CoE Resolution ResAP(2008)1: Part 2

Part 2
Testing of dyesluffs 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	Cl no	CAS no	Amount (ppm)	Colourant	Cl 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	17364-14-2
---	Basic Violet 10	45170	81-88-9	---	Solvent Orange 7	12140	3118-97-6
---	Basic Violet 3	42555	548-62-9	---	Solvent Red 24	28105	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, 03. DECEMBER 2018

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(-) = below detection limit

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[Register of Companies] AG Bielefeld, HRB 35-412
[VAT ID No] DE 176 26 5000

[Phone] +49 521 400 82 89 0
[Email] sekretariat@ctl-mails.de
[Homepage] ctl-bielefeld.de
tattoolab.eu

[Bank] Sparkasse Gütersloh
Königs-Adenauer-Platz 1
33390 Gütersloh, GERMANY
[SWIFT/BIC] WELADED 1 GTL
[IBAN] DE 87 47850055 000 4005345



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[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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[Address]

Krackser Straße 12
38559 Bielefeld, GERMANY

[Phone]

+49 521 400 82 99 0

[Managing Director]

Kenny-Liese Prior

[Email]

sekretariat@ctl-mails.de

[Based in]

Bielefeld

[Homepage]

ctl@bielab.de

[VAT ID No]

DE 776 26 5000

[Bank]

SparKasse Gütersloh
Korned-Adenauer-Platz 1
33330 Gütersloh, GERMANY

[SWIFT/BIC]

WEALED3333

[IBAN]

DE 87 4785005 000 4005345



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[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: 1.0×10^1 CFU/g

Results

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

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Kerry-Luise Prior

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sekretariat@ctl-mails.de

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33330 Quersloh GERMANY

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ctl-bielefeld.de

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WELADED 1 GTL

[Register of Companies AG Bielefeld, HRB 35-412

DE 178 26 5000

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DE 87 47850085 000 4005345



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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

EPA, ZEK 2008-01

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

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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+49 521 400 82 89 0

[Managing director]

Kerry-Luise Prior

[Email]

sekretariat@ctl-mais.de

[Registered office in]

Bielefeld

[Homepage]

ctl-bielefeld.de

[SWIFT/BIC]

WELADED 1 GTL

[Register of companies]

AG Bielefeld, HRB 36-412

[Bank]

Sparkasse Gütersloh
Konrad-Adenauer-Platz 1
33330 Gütersloh, Germany

[IBAN]

DE87 4785 0065 0004 0053 45