



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

I MAX INTERNATIONAL SRL
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CTL®-No **354417+355010/53**

[Order date] ---
[Arrival date CTL] ---
[Date] 26.06.2012/08.10.2012

www.ctl-tattoo.eu

Certificate

[Article] 1 sample of a tattoo colour
[Brand] MAKKURO SUMI
[Colour] Horizon Blue
[Test] Aromatic amines and carcinogens acc. to COE Resolution ResAP(2008)1: Part 1a, Part 1b

Part 1a Investigation 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				§ 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-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 Investigation 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				§ 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, 08. OCTOBER 2012

Dr. rer. nat. G. Prior

(---) = below detection limit

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The validity of the certificate is 2 years.

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Part 2 Investigation 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				

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[Test] acc. to COE Resolution ResAP(2008)1: Part 3

Part 3 Investigation of Heavy Metals according to COE Resolution ResAP(2008)1 Detection limit: 0.01 ppm			DIN 38406-E29 Analysis acc. to COE ResAP(89)1 extraction using acidic perspiration		
Amount (ppm)	Elements or compound	Limit (ppm)	Amount (ppm)	Elements or compound	Limit (ppm)
---	Arsenic (As)	≤ 2	---	Nickel (Ni)	As low as technically achievable
---	Barium (Ba)	≤ 50	---	Lead (Pb)	≤ 2
---	Cadmium (Cd)	≤ 0.2	---	Selenium (Se)	≤ 2
---	Cobalt (Co)	≤ 25	---	Antimony (Sb)	≤ 2
---	Chromium (Cr), VI	≤ 0.2	---	Tin (Sn)	≤ 50
---	Copper (Cu), soluble	≤ 25	---	Zinc (Zn)	≤ 50
---	Mercury (Hg)	≤ 0.2			

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[Test] PAH and BaP acc. to COE Resolution ResAP(2008)1: Part 4

Part 4 Investigation of Polycyclic aromatic hydrocarbons (PAH) and Benzo-a-pyrene (BaP) according to COE 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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[Article]	1 sample of a tattoo colour
[Brand]	MAKKURO SUMI
[Colour]	Horizon Blue
[Test]	Sterility acc. to COE Resolution ResAP(2008)1; ASU §64 LFGB L59.00-4;- L06.00-18: Part 5

Part 5 Investigation of Sterility Detection limit: $< 1.0 \times 10^0$ CFU/g	
	Results
Microbiological test: pseudomonads = King A, King B, Oxidase test acc. to COE ResAP(2008)1	$< 1.0 \times 10^0$ CFU/g
Anaerobes sulfite-reducing sporulating bacteria acc. to ASU §64 LFGB L59.00-4	$< 1.0 \times 10^0$ CFU/g
Aerobes mesophilic sporulating bacteria acc. to ASU §64 LFGB L06.00-18	1.0×10^0 CFU/g

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