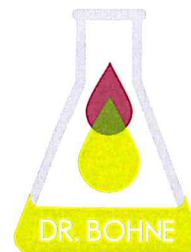


Certificate of Analysis

Dr. BohneNachf. GmbH & Co. KG
Kosm. / Pharm. Produkte
D - 58332 Schwelm

Mittelstr. 28-30
Phone : +49-2336/9183-0
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0201018



Quality Unit

Product	: Hydroquinone USP	CAS-Nr.	: 123-31-9
Quantity	: 25 kg	Batch No.	: 18/17020
MaterialNo.	: 8478	ContractNo.	: 9579
Customer No.	: 22102	Account No.	: 18096
Address	: Kraeber & Co. GmbH. Waldhofstr. 14, 25474 Ellerbek	Order No.	: 22975
Productname	: Hydroquinone USP	ProductNo.	: 0280101025
Customer		CustomerKraeber GmbH.	

Test parameter	Method	Specification	Result
Appearance		fine, crystalline powder	fine, crystalline powder
Color		colorless - white	colorless - white
Solubility		soluble in water, alcohol and ether	soluble in water, alcohol and ether
Identity A	IR 197K	Corresponds to standard	complies
Identity B	TLC 621	Corresponds to standard	complies
Identity C	UV	max.293+/-2 nm	294 nm
Melting range	741	172 – 174 °C	173 °C
Residue on ignition	281	max. 0,5 %	0,0 %
Water	921 (K.F.)	max. 0,5 %	0,3 %
Assay (calc. on anhyd. basis)	USP monograph	99,0 – 100,5 %	100,2 %
Residual solvents	467	Methylenchloride ≤ 600 ppm	86 ppm
		Ethanol ≤ 5000 ppm	not detected
		Benzene ≤ 2 ppm	not detected
		Methylisobutylketone ≤ 4500 ppm	not detected

Additional tests

Microbiological contamination*

(*One batch per year.)

TAMC	61	≤10 ³ CFU/g	NA
TYMC	61	≤10 ² CFU/g	NA
Related substances	DAC2013		
Impurity A		≤ 0,2 %	0,0 %
any other impurity		≤ 0,10 %	not detected
sum of all impurities		≤ 0,3 %	0,0 %

for information only!	laser diffraction	D(X 90) <400 µm	NA
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particle size*

(*One batch per year.)

Manufacturing – date 07.2018

Expiry – date 06.2021

in exclusive cooperation with



The product batch complies to USP 41/DAC2013. We hereby confirm that the manufacturing has been carried out in full compliance with the EU GMP requirements.

Batch Release: 58332 Schwelm, July 23, 2018

Quality Assurance

M. Spek

