

CERTIFICATE

for

ICH-Guideline Q7A

(GMP for Active Pharmaceutical Ingredients)

By means of periodical audits it is assured, that the inspection process assures the product/service conformity including all requirements therefor. This certificate does not acquit the company of its responsibility for the compliance with all legal requirements and service properties.

**AQUA
NOVA®**

AQUANOVA AG
Birkenweg 8-10
64295 Darmstadt/Germany

scope:

Research & development, production as well as distribution of liquid, fat and water soluble solubilisates with micelle structure for the further processing in food, dietary supplement, animal feed, cosmetics, skin care products, pharmaceuticals and culture medium to optimize the physiological and technological impact.

Certificate registration No. **70 900 1687**

Certificate valid from 2015-04-13 to **2018-04-12**

Audit report No. 4287 7615



Darmstadt, 2015-04-13
Certification body of TÜV Hessen
– Head of Certification body –

Product Name	Novasol® Curcumin (bulk)
Product Code	HB44190
Specification Version	5
Specification Date	04-Apr-16
Batch Number	L337.16.PP.01.01
Production Date	15-November-2016
Expiry Date	14-November-2018

Parameter	Specification	Result
Product Information		
Product description	Concentrate of micelle solubilized Curcuma extract	
Ingredients	Emulsifier: Polysorbate 80 (E433) Natural Curcuma oleoresin	
Physical Characteristics		
Description	Yellow/orange/red viscous liquid (pure solubilisate)	Conform
	Yellow/orange clear solution (solubilisate diluted in water 1:500)	Conform
Density	1.05 - 1.15 g/ml (20°C)	1.090 g/ml
Turbidity	Max. 50 FNU (solubilisate dilute in water 1 : 500)	1 FNU
Chemical Characteristics		
Assay	Min. 6% total curcuminoids - included in micelles	7.01 %
	Min. 4.75 - 5.5% Curcumin - included in micelles	5.37 %
pH	5 - 8 (solubilisate dilute in water 1 : 500)	6.63
Heavy metals		
Lead (Pb)	Max. 3 ppm*	< 3 ppm
Mercury (Hg)	Max. 0.1 ppm*	< 0.1 ppm
Cadmium (Cd)	Max. 1 ppm*	< 1 ppm
Arsenic (As)	Max. 1 ppm*	< 1 ppm
	*Periodical testing	
Microbiological Characteristics		
Total Plate Count	Max. 1 000 cfu/g	< 1000 cfu/g
Yeast & Molds	Max. 100 cfu/g	< 100 cfu/g
E. coli	Absent/g	Absent
Coliform	Absent/g	Absent
Storage Information		
Storage conditions	Cool & dark (<25°C) in well-closed original packaging	
Shelf life	24 months (in unopened container)	

Frutarom Global Policy: This product is not irradiated and is non-GMO according to EC 1829/2003 and 1830/2003. This product is BSE/TSE free. Radioactivity (Cs134 + Cs137)<370 Bq/kg [Scintillation].

This product has been carefully selected and imported for you by Frutarom Belgium NV.

This is an accurate representation of the manufacturer's analysis but does not release the buyer from control upon receipt.

Electronically generated document. Valid without signature.



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Product Status and Suitability

Halal certified by Halal Control (EU) C-197-9001-340-03 (valid until 08-2016)

Note: The solubilisate is water and fat soluble

During mixing, the solubilisate must be stirred into the water/oil and not vice/versa

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This product is BSE/TSE free. Radioactivity (Cs134 + Cs137) < 370 Bq/kg [Scintillation].

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Office (Germany): HALAL CONTROL, D-65428 Ruesselsheim, Stahlstr. 44, Tel.: +49 6142 301987-0, Fax.: -29, http://www.halalcontrol.eu, e-mail: info@halalcontrol.eu

HALAL CONTROL حلال كمنترول
شركة لمراقبة وترخيص الحلال (Germany) Inspection- and Certification Body
hereby certifies, that the products: تشهد الشركة بأن المنتجات أدناه

Pos	PID	Product
001	EW0124/5, WFC/CCM6/5, HB44190.	NovaSOL® Curcumin
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manufactured by المصنعة في
AQUANOVA AG
at the production site Birkenweg 8-10, D-64295 Darmstadt (Germany) في
are Halal. تحقق معايير الحلال

THIS CERTIFICATE IS VALID FOR AND LIMITED TO PRODUCTS BEARING THE HALAL LOGO OF HALAL CONTROL ON ITS PACKAGING.

A Halal control procedure, documented in an audit report, has verified that the above listed products are complying with the Halal requirements in accordance with the Islamic Law.

Technical notice: The verification and certification have been undertaken in full compliance with guidelines CAC/GL 24-1997 and respectively MS1500:2009. The products and the production system are under supervision of HALAL CONTROL.

إن نظام مراقبة الحلال والموثق في تقرير المعاينة قد أثبت أن المنتجات المذكورة أعلاه تحقق معايير الحلال الشرعية. ملاحظة تقنية: إن عملية الفحص والترخيص تمت بمراعاة تامة لمعايير CAC/GL 24-1997 وكذلك MS1500:2009. وتقوم شركة حلال كمنترول بمراقبة عملية التصنيع والمنتجات.

This certificate is valid until: **2017-08-25**
Certificate Registration No.: **C-197-9001-340-04**
Ruesselsheim

تاريخ إنتهاء صلاحية الشهادة

رقم سجل الشهادة

تاريخ إصدار الشهادة في مدينة روسلزهايم

Authorization Units:

أسماء فريق مراقبة المنتجات وعملية التصنيع ومتابعيهم

Al-Sheikh Prof. Dr. Muhammad Hassan Hitou, Director Board of Scholars, Shari'ah Compliance, Islamologist, IC, ECM
Dr. Rachid Fetouaki, Chemist, Mgr. Regulatory Unit, IC, ECM
Dr. Ali Fanous, Food Technologist, Mgr. Audit Unit, IC, ECM



DI Mahmoud Tatari
General Manager

Al-Sheikh Prof. Dr. Muhammad Hassan Hitou
Director Board of Scholars, Islamologist, IC

Dr. Ali Fanous
Technological Panel, IC, ECM

HALAL CONTROL is recognized and appointed by:

JAKIM Malaysia, MUI Indonesia, MUIS Singapore, CICOT & HIT Thailand and other reputable Halal authorities.

★★★ Certificate Validity Status: http://www.halalcontrol.info/_certstatus/C-197-9001-340-04/status.htm ★★★