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Certificate of Analysis: Ginger CO₂-to extract, type no. 014.002

Batch no. 431018, Lab no. 14351

Production: March 2013; retest March 2018

Raw material: *Zingiber officinalis* - Roots, dried

Country of origin of raw material: Nigeria

Country of origin of product: Germany

DIE - ratio: 18 – 28 kg raw material yield 1 kg product

Analytical results:

Content of essential oil	21.006.01, Distillation, gravimetric	limits 38 – 46	value unit 40,4 % (g/100g)
Zingerone	21.027.03, HPLC	n.s.	0,02 %
6-Gingerol	21.027.03, HPLC	n.s.	15,9 %
8-Gingerol	21.027.03, HPLC	n.s.	3,9 %
6-Shogaol	21.027.03, HPLC	n.s.	1,2 %
10-Gingerol	21.027.03, HPLC	n.s.	5,8 %
8-Shogaol	21,027,03, HPLC	n.s.	0,23 %
10-Shogaol	21.027.03, HPLC	n.s.	0,20 %
Sum of Gingerols	21.027.03, HPLC	n.s.	25,6 %
Sum of Shogaols	21.027.03, HPLC	< 3	1,7 %
Sum of pungent compounds	21.027.03, HPLC	25 – 33	27,3 %
Composition of the volatile compounds in distillate:	GCMS, 100% Method		
Neral/Geranial	GC, ginger. met	n.s.	1,8/3,2 °A
ar-Curcumene	GC, ginger. met	3 – 7	5,6 %
alpha Zingiberene	GC, ginger. met	28 – 45	30,0 %
alpha Farnesene	GC, ginger. met	n.s.	8,5 %
beta Farnesene	GC, ginger. met	R.S.	6,0 %
Sesquiphellandrene	GC, ginger. met	13 – 17	13,1 %
Pestizides	external analysis	EC No. 396/2005	meets
Aflatoxins	external or internal analysis	EC No. 188112006, EC	meets

N o . 1 6 5 / 2 0 1 0

n.s. = not specified n.d. = not detected