

Acrylamide/Coffee 2018-12



Overview Analytics for Coffee

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Institut Kurz GmbH

Independent Laboratory Colgne/Parma

Food/Pet Food/Cosmetics/Consumer products

Specialty: Chemistry ... Health

Contaminants, residues, microbiology: We too

Vitamins, polyphenols, antioxidants, enzymes: USP

Chemistry, in vitro, in vivo, in silico

Member of German Coffee Association... Food&Drink Europe

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Care for acrylamide..... originated in Sweden

Coffee, bakery items, potato chips...

Much more relevant: Maillard reaction:

**Advanced glycation end products: Separate old
from young**

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Unique for Coffee:

Acrylamide

- **cannot be avoided without sensorial detriments**
- **enzymatic treatments not successful**
- **Furan !**

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Acrylamide analysis in Coffee: German interpretation of the recent EU-ordinance

- Ordinance is devoted to roasters, not to authorities only
- Only roasters > 50 tons/a are obliged to obey the acrylamide
- Smaller ones should “know about it”
- >50 tons: Measure relevant product groups once a year
- Use signal levels as trigger for “strategies”
- Apply an arsenal of reducing strategies

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Analytics:

- **Coffee chemically is a very “dirty” matrix anyhow**
- **Health benefits of coffee prevail over detriments**
- **Draft DIN EN 18862: Determination of acrylamide in coffee by HPLC-MS/MS or GC-MS**
- **There was a DIN before from 2009**

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Draft DIN EN 18862: Determination of acrylamide in coffee by HPLC-MS/MS or GC-MS

- Mill the powder
- Add D3-Acrylamide as standard
- Separate fat by n-Hexan
- Solve in water, centrifuge
- Add Carreez-solvent for cleaning
- Solid phase extraction
- Devote to LC

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Analytics:

- **In house precision roast coffee : 54µg/kg: 16%**
217µg/kg: 7%
Instant: 612µg/kg: 8%
- **Interlaboratorial precision:roast: 54µg/kg: 25%**
217µg/kg: 8%
Instant: 612µg/kg: 19%

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Prices for analysis per sample

Depending on number of samples between 60 and 160 Euros plus VAT

Costs for analysis per sample: 60 to 120 Euros

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Analytics:

**Any fast – cheap analysis method will be welcome to
Institut Kurz.**

Further questions:

Helmut Weidlich

[h. weidlich@institute-kurz.de](mailto:h.weidlich@institute-kurz.de)