Legal Regulations of Fats and Oils in Europe

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EU White Paper on Food Safety

• High level of human health and consumer protection
  – Comprehensive integrated approach
    • Chain approach
  – Responsibility of stakeholders
    • Farm to table principle
  – Risk analysis
    • Risk assessment, risk management, risk communication
• From quality control to quality assurance
Food Safety Management Systems

- Monitoring systems
  - Population level
- Hazard analysis critical control points
  - HACCP system
  - Company level
- Guides for good hygienic practices
  - GGHP system
  - Sector or subsector level
Food Safety Population level

• Risk Analysis
  – Risk assessment: scientific approach
  – Is there a risk of (over)heated fats and oils?
  – No examples of heated fats and oils
  – Responsibility of authorities, scientific bodies

• Monitoring systems
  – Responsibility of authorities
  – Objective: to collect information about the quality of heated fats and oils at the population level
  – Need for quality parameters!
Food Safety: Company Level

- HACCP system:
  - Mandatory: food companies
- GGHP system: guides for good hygienic practices: » The Guides »
  - Voluntary basis, alternative to HACCP
  - Particularly for small and medium enterprises (SME’s)
  - Sector or sub-sector level, not individual entreprise
  - Approved by authorities
  - Notified to EU
  - Opportunity for SME’s
Regulations in Europe

- No specific regulation for heated fats and oils at the EU level
- Several member states approved specific regulation for heated fats and oils
- In addition to general regulation for fats and oils in general: (erucic acid …)
- Different status of regulations: official regulation, statement by advisory body, recommendations…
- In the last two decades; several parameters
- Applied for control purposes and others
Quality Parameters 1

- Temperature specifications,
- Acid value or equivalent
- Polar compounds
- Petroleum ether insoluble substances,
- Polymerized triglycerides
- Viscosity
- Smoke point
- « Acceptable sensorial quality »
Quality Parameters 2

• Range of quality factors in use
  – Diversity in approach between member states
  – Impossible to discuss all details
  – Limited to examples en comments

• Acceptable sensorial quality
  – Relative criterion but important
  – Convincing factor
Quality Parameters 3

• Polar substances:
  – Max 24% DE, Max 25% FR, BE, GR, ES

• Polymerized triglycerides:
  – Max 10% BE, Max 12 % DE, GR,
    Max 16% NL

• Both are very often used
  – Control purposes
  – « Reference » method
Quality Parameters 4

- Temperature: max 180 °C BE
- Acid value: max 2,0 DE
  - Nature of the oil
  - In combination with other criteria
- Smoke point min 170 °C DE, BE
  - See acid value
- Petrol. ether insoluble subst: max 0,7% DE
Fast Methods

• Several methods in use
• Particularly for screening and monitoring purposes, not for control
• Useful in a quality assurance programme
• Careful calibration necessary
  – Relationship between fast method and « reference » method
  – Valid for a particular application
Conclusions

• No specific EU regulation for heated fats and oils
• Need for such a regulation?
• Risk analysis of heated fats and oils!!!
• New knowledge about health aspect of particular fats and oils
• Acrylamide story!