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Any progress from the consumers' perspective from EFSA's Draft Risk Assessment on Acrylamide in Food?

Brussels, 10th December 2014

Background

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1994: IARC's Risk Assessment (RA): AA is „probably carcinogenic" to humans

→ „There is **sufficient evidence in experimental animals** for the **carcinogenity** of acrylamide" (p. 425)

2002: Acrylamide (AA) was found in food

5 RAs of International Bodies

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WHO	2002	Health implications of acrylamide in food. Joint FAO/WHO consultation, Geneva, Switzerland, 25 - 27 June 2002
SCF	2002	Opinion of the Scientific Committee on Food on new findings regarding the presence of acrylamide in food, expressed on 3 July 2002
JECFA	2005	WHO, 2006: Evaluation of certain food contaminants. Sixty-fourth report of the Joint FAO/WHO Expert Committee on Food Additives. WHO Technical Report Series: 930. Geneva
JECFA	2010	WHO/FAO, 2011: Safety evaluation of certain contaminants in food. WHO Additives Series: 63. Geneva
EFSA	2014	Draft Scientific Opinion on Acrylamide in Food

EFSA, 2005:
„at present an additional evaluation … is not necessary"

Risk Assessments: Toxicology

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WHO	2002	„AA has a **carcinogenic** potency in rats that is similar to that of other carcinogens in food, but the intake levels for AA are likely to be higher " (p. 1)
SCF	2002	„AA is considered to be both genotoxic in vivo and carcinogenic in experimental animals" (p. 12)
JECFA	2005	„a compound that is genotoxic and **carcinogenic**" (p. 25)
JECFA	2010	„a compound that is genotoxic and **carcinogenic**" (p. 139)
EFSA	2014	„AA is **carcinogenic** in multiple tissues in both male and female mice and rats" (p. 4)

„carcinogenic" in animals

Toxicology: Development

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- 2002 – 2009: > 47 studies on rats and mice
- PubMed „acrylamide“ + „toxicology“: 145 publications since 2002

Toxicology: Conclusion

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No progress after 5 RAs since 2002 (1994)!

Risk Assessments: Epidemiology

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WHO	2002	„Only **limited** human population data are available for acrylamide … from occupational exposure" (p. 1)
SCF	2002	„The potential carcinogenity … has **not been thoroughly investigated** in humans" (p. 9)
JECFA	2005	„The available results from epidemiological studies that estimated oral exposure to acrylamide were **not suitable** for use in risk assessment of acrylamide" (p. 45)
JECFA	2010	„the available epidemiological data were **not suitable** for a dose-response analysis" (p. 138)
EFSA	2014	„The data from human studies were **not adequate** for dose-response assessment" (p. 5)

Data „not existing" / „not adequate"

Epidemiology: Development

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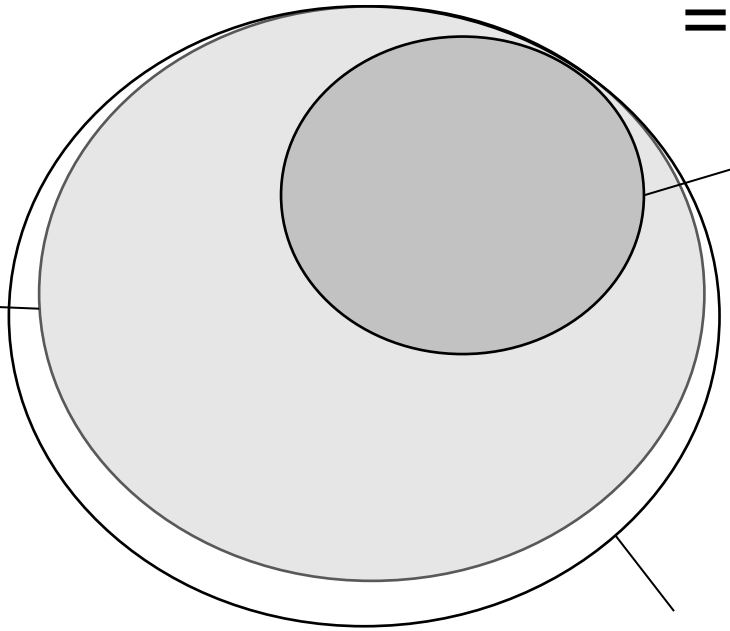
JECFA, 2005

study base
= 2‘322‘144

JECFA, 2010

study base
= 8‘819‘539



100 %

„not suitable“

380 %

„not suitable“

411 %

„not adequate“

EFSA, 2014

study base
= 9‘532‘512

Epidemiology: Conclusion

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No progress since 2002!

Risk Characterization: MOE

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EFSA, 2005: „an MOE of 10,000 or higher … would be of low concern from a public health point of view“

	JECFA, 2005	JECFA, 2010	EFSA, 2014
MOE	300	180	283-425
	„concern“	„concern“	„concern“

Comment on the MOE

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- The MOE of AA is less than 1 % of EFSA‘s low concern-level (10‘000), even on the basis of a low calculated exposure. EFSA does not give any recommendation in this situation. Why not? Is this according to the sense of the MOE?
- EFSA states that the European monitoring data is insufficient. But EFSA takes this data to calculate an MOE which is higher than JECFA‘s MOE

General Aspects

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- Advancement of Hazard Characterization is not possible as long as better methods are not available. EFSA did not comment on the fact that the research did not bring any progress.
- Why was a Risk Assessment performed in 2014 but not in 2005?

Conclusion: Summary

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The main conclusion from the Draft is that nothing happened (no development) and nothing needs to happen (no recommendation) in spite of the fact that AA is a „concern"

➔ No progress from the consumers' perspective!

Thank you!

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