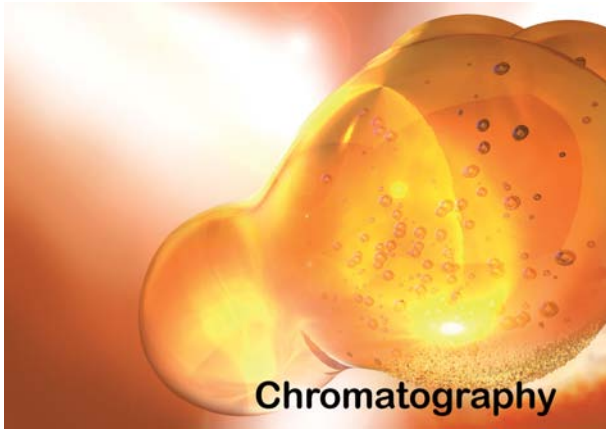
Application Note



Analysis of Acrylamide in Processed Foods in Japan

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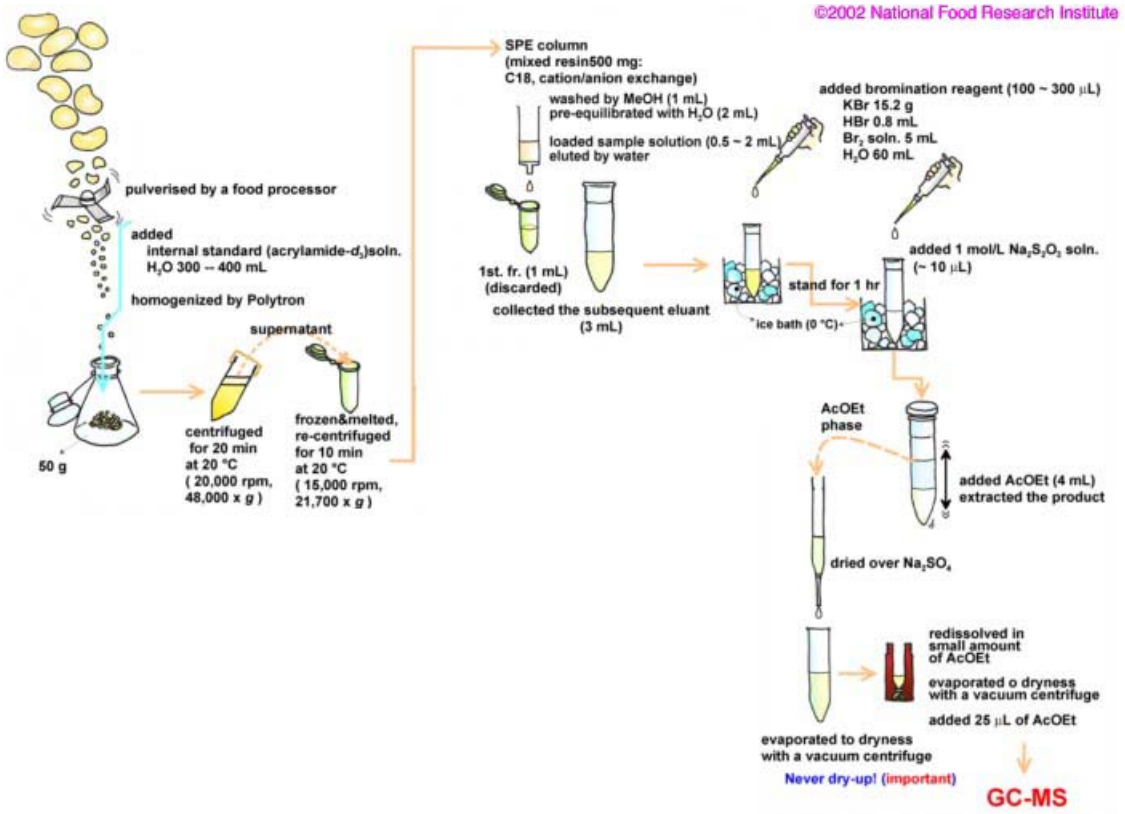
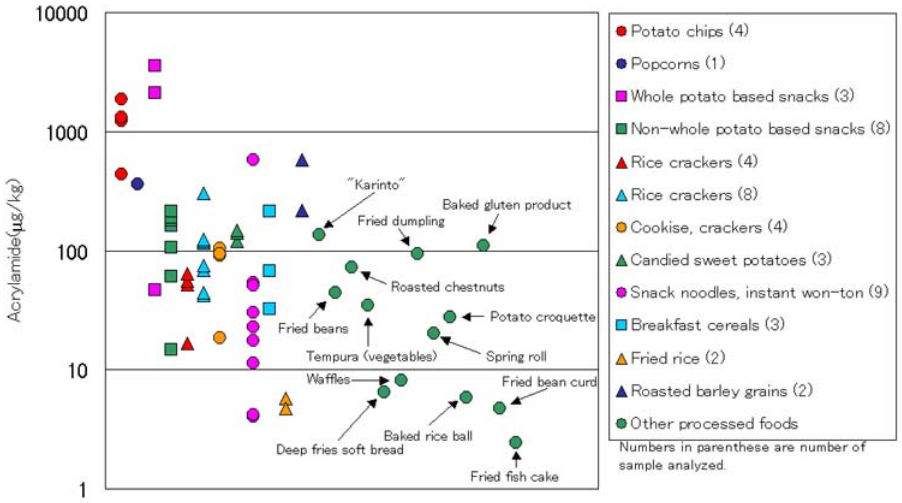
Since announcement of presence of acrylamide in processed foods by University of Stockholm and National Food Administration of Sweden at a press conference in 24 April 2002, we have recognized this issue as a substantial matter of food safety and started analysis of acrylamide in processed foods in Japan by LC-MS/MS and GC-MS. Here we report the methods and results of the analyses on 63 samples covering 31 product types.

GC-MS conditions

apparatus	QP2010 (Shimadzu, Kyoto, Japan)
column	CP-Sil 24 CB (0.25 mm i.d. x 30 m, 0.25 µm film thickness, Varian, CA, USA)
carrier gas	He
flow rate	1.43 mL/min
injection volume	1 µL
injection temperature	120 °C
temp. program	85 °C (1 min) — (25 °C/min)—175 °C (6 min) — (40 °C/min)—250 °C (7.52 min)
retention time	8.1 min
acquisition duration	16 min
ionization	EI+ (70 eV)
detection	SIM (acrylamide *m/z* 150 & 152, internal standard *m/z* 153 & 155)
interface temp.	280 °C
ion source temp.	200 °C
limit of detection	12 ng/mL (52 fmol) as 2,3-dibromopropanamide
limit of quantitation	40 ng/mL (170 fmol) as 2,3-dibromopropanamide



These analyses were carried out on single randomly selected samples from supermarkets. It is highly likely that there are variations in acrylamide concentration among production lots and among foods within a product type due to difference in the processing condition. Survey over wider range of foods with larger number of samples including home cooked foods is necessary for risk assessment.



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