



Proposed Acrylamide Work Plan

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Carcinogen
Identification
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Acrylamide

- Listed as a carcinogen in 1990
- Recognized as an industrial chemical
- Only recently discovered to form during cooking of foods
- Pervasive in the food supply
- NSRL based on US EPA cancer slope factor

What are others doing?

- FDA, JIFSAN, WHO and others agencies have concluded that the current scientific information does not warrant warnings
- They are reviewing this conclusion as new data become available

Acrylamide Data Gaps

- Carcinogenic mechanism of action, including DNA and Hb adduct formation
- Pharmacokinetics in rodents and humans,
- Oral bioavailability in food
- Epidemiology of acrylamide in diet
- Better exposure data
- Mechanism of formation and reduction
- 115 studies underway

Important Ongoing Research

- Cancer bioassays in rats and mice (NTP)
- Mechanistic studies (SNF, NTP/NCTR)
- Mutagenicity studies in transgenic rodents (NTP/NCTR)
- Epidemiologic dietary studies (CDC/NHANES and others)
- Pharmacokinetic studies (NTP/NCTR)
- Bioavailability in food studies

Unintended Consequences

- Unknown impact of cooking changes
- Undercooking of food
- Change in consumption patterns
- More consumption of home-cooked foods, which may contain more acrylamide
- Loss of confidence in health messages and in the safety of food supply

Recommendations

- Hold a meeting to review the new data after the 4/04 JIFSAN meeting