CONTENTS

NOTE TO THE READER ............................................. 5
LIST OF PARTICIPANTS .............................................. 7
PREAMBLE

Background .................................................................. 13
Objective and Scope .................................................. 13
Selection of Topics for Monographs ............................... 14
Data for Monographs .................................................. 15
The Working Group .................................................... 15
Working Procedures .................................................... 16
Exposure Data ........................................................... 16
Biological Data Relevant to the Evaluation of Carcinogenicity to Humans ...................................................... 18
Evidence for Carcinogenicity in Experimental Animals .......... 19
Other Relevant Data in Experimental Systems and Humans .... 21
Evidence for Carcinogenicity in Humans .......................... 23
Summary of Data Reported .......................................... 26
Evaluation .................................................................. 27
References .................................................................. 31

GENERAL REMARKS ON THE SUBSTANCES CONSIDERED ........ 35

THE MONOGRAPHS

Coffee

Production and use .................................................... 41
Chemical composition .................................................. 61
Biological data relevant to the evaluation of carcinogenic risk to humans .................................................... 90
Summary of data reported and evaluation ......................... 167
Appendix 1. Main compounds found in coffee .................... 199
CONTENTS

Tea

Production and use.................................................. 207
Chemical composition.................................................. 217
Biological data relevant to the evaluation of carcinogenic risk to humans.................................................. 233
Summary of data reported and evaluation.......................... 259

Mate

Production and use.................................................. 273
Chemical composition.................................................. 276
Biological data relevant to the evaluation of carcinogenic risk to humans.................................................. 278
Summary of data reported and evaluation.......................... 282

Methylxanthines

Caffeine................................................................. 291
Theophylline............................................................. 391
Theobromine............................................................. 421

Methylglyoxal............................................................. 443

GLOSSARY ..................................................................... 459

SUMMARY OF FINAL EVALUATIONS................................. 461

APPENDIX 2. SUMMARY TABLE OF GENETIC AND RELATED EFFECTS .......................................................... 463

APPENDIX 3. ACTIVITY PROFILES FOR GENETIC AND RELATED EFFECTS .......................................................... 465

SUPPLEMENTARY CORRIGENDA TO VOLUMES 1–50 ............ 483

CUMULATIVE INDEX TO THE MONOGRAPHS SERIES ............ 485
NOTE TO THE READER

The term ‘carcinogenic risk’ in the IARC Monographs series is taken to mean the probability that exposure to an agent will lead to cancer in humans.

Inclusion of an agent in the Monographs does not imply that it is a carcinogen, only that the published data have been examined. Equally, the fact that an agent has not yet been evaluated in a monograph does not mean that it is not carcinogenic.

The evaluations of carcinogenic risk are made by international working groups of independent scientists and are qualitative in nature. No recommendation is given for regulation or legislation.

Anyone who is aware of published data that may alter the evaluation of the carcinogenic risk of an agent to humans is encouraged to make this information available to the Unit of Carcinogen Identification and Evaluation, International Agency for Research on Cancer, 150 cours Albert Thomas, 69372 Lyon Cedex 08, France, in order that the agent may be considered for re-evaluation by a future working group.

Although every effort is made to prepare the monographs as accurately as possible, mistakes may occur. Readers are requested to communicate any errors to the Unit of Carcinogen Identification and Evaluation, so that corrections can be reported in future volumes.