

IARC MONOGRAPHS

BENZENE

VOLUME 120



**IARC MONOGRAPHS
ON THE EVALUATION
OF CARCINOGENIC RISKS
TO HUMANS**

International Agency for Research on Cancer



World Health
Organization

BENZENE

VOLUME 120



This publication represents the views and expert opinions of an IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, which met in Lyon, 10–17 October 2017

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In 1969, the International Agency for Research on Cancer (IARC) initiated a programme on the evaluation of the carcinogenic risk of chemicals to humans involving the production of critically evaluated monographs on individual chemicals. The programme was subsequently expanded to include evaluations of carcinogenic risks associated with exposures to complex mixtures, lifestyle factors and biological and physical agents, as well as those in specific occupations. The objective of the programme is to elaborate and publish in the form of monographs critical reviews of data on carcinogenicity for agents to which humans are known to be exposed and on specific exposure situations; to evaluate these data in terms of human risk with the help of international working groups of experts in carcinogenesis and related fields; and to indicate where additional research efforts are needed. The lists of IARC evaluations are regularly updated and are available on the Internet at <http://monographs.iarc.fr/>.

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This volume presents an evaluation of the carcinogenicity of benzene, updating with new data the most recent evaluation provided in Volume 100F of the *IARC Monographs*. Benzene, a simple aromatic hydrocarbon, occurs naturally and as a result of human activity, notably as a result of combustion, and it is a high-volume chemical now used mostly as a chemical intermediate. Human exposure to benzene is widespread through the air, in consumer products, and in industry.

An *IARC Monographs* Working Group reviewed epidemiological studies, animal cancer bioassays, and mechanistic data to assess the carcinogenicity of benzene and conducted quantitative analyses of data on genotoxicity and human cancer risks.

