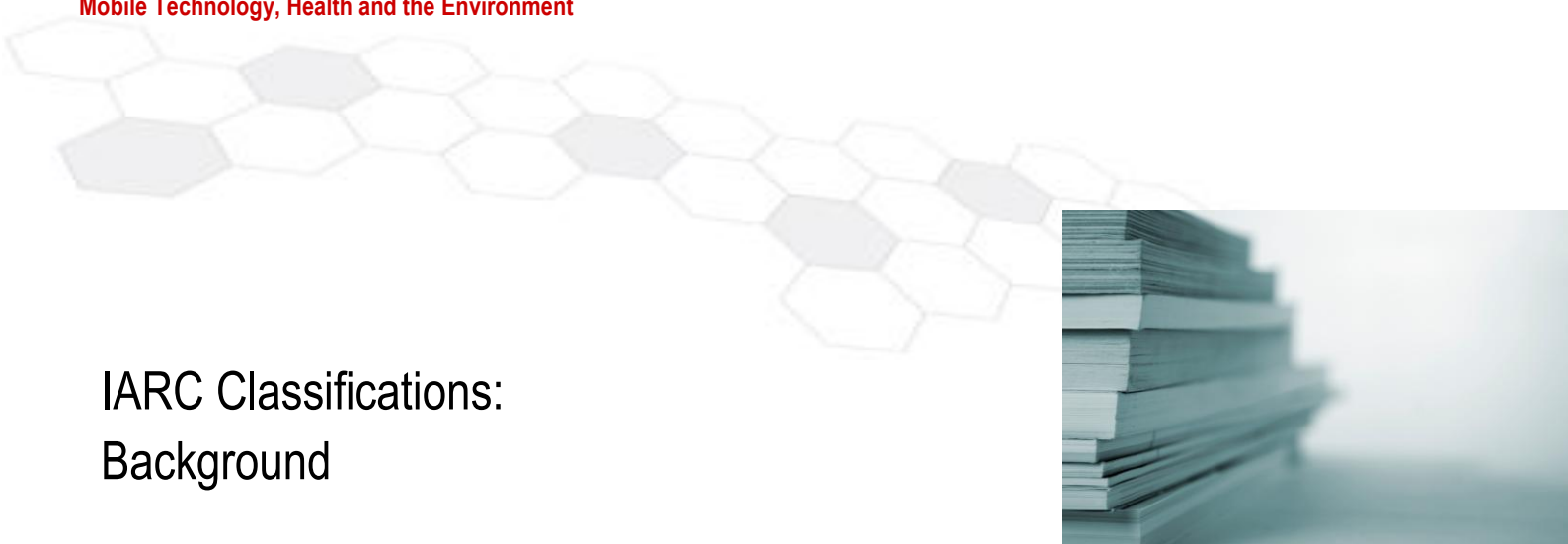




IARC Classifications: Background

The International Agency for Research on Cancer (IARC) is a specialist agency of the World Health Organization (WHO). The IARC Monographs programme identifies environmental factors that might be a human cancer hazard.

A working group meeting to evaluate radiofrequency fields (RF), including those from mobile communications, will occur from 24 to 31 May at the headquarters of IARC in Lyon, France.

Background

The mission of IARC mission is to co-ordinate and conduct research on the causes of human cancer and to develop scientific strategies for cancer prevention and control.

IARC classifies agents that humans may be exposed to based on the strength of evidence of their potential as human cancer hazards. The agents include chemicals, complex mixtures, processes, occupational or environmental exposures, cultural or behavioural practices, biological organisms, and physical substances.

Importantly, IARC does not consider *risk* or likelihood of harm to humans. It only considers the strength of the scientific evidence for a cancer *hazard*. Therefore, risk may not be present at everyday levels of exposure to the agent being assessed.

IARC Working Groups

In order to classify an agent, the IARC establishes a Working Group of specialist scientists to review the evidence that a cancer hazard is associated with the agent being reviewed.

The IARC Working Group meets to consider the evidence as a whole. They aim to achieve a consensus among Working Group members regarding the adequacy of the evidence and how to classify the agent(s) under consideration as to the strength of evidence for a cancer hazard.

Since 1971, IARC has evaluated more than 900 agents. This includes alcoholic beverages, asbestos, benzene, formaldehyde, drinking coffee, hair colouring products, paracetamol, powerline electromagnetic fields, and shiftwork that involves disruption to normal sleep patterns.



The Classification Process

During the course of the meeting the IARC Working Group evaluates possible cancer hazards using:

- Exposure data – how humans are exposed to the substance or process under review.
- Studies of cancer in humans – these may be population studies or experimental studies.
- Studies of cancer in experimental animals – usually from laboratory tests.
- Evidence of mechanisms and other data – are there known physical and biological processes at work and are they relevant for humans.

The Working Group examines the strength of the evidence using standard terms and also the extent to which one type of evidence supports another. For example, whether the evidence is sufficient, limited or inadequate, and are associations reported in population studies supported by controlled laboratory studies.

Finally, the body of evidence is considered as a whole in order to reach an overall evaluation of the potential human carcinogenicity of the agent.

Classification Outcomes

The IARC classification groups are as follows, the numbers in brackets are the current number of agents in each group.

Group 1: *carcinogenic to humans* (107).

Group 2A: *probably carcinogenic to humans* (59).

Group 2B: *possibly carcinogenic to humans* (266).

Group 3: *not classifiable as to its carcinogenicity to humans* (508).

Group 4: *probably not carcinogenic to humans* (1).

The only agent classified in Group 4 is caprolactam, a chemical component of Nylon 6, a type of plastic.

The classification of an agent is a matter of scientific judgement that reflects the strength of the evidence derived from studies in humans and in experimental animals and from mechanistic and other relevant data.

Reporting the Classification

Soon after the Working Group meeting IARC may issue a media release providing the classification for the agent and the basic rationale.

Within a few weeks IARC publishes additional information on the Working Group conclusion via a paper in the scientific journal *The Lancet Oncology*.

The Monograph, which provides the full information on the evaluation of the scientific evidence and the conclusions of the Working Group is published about 1 year after the meeting.

Hazard versus Risk

The IARC process leads to a hazard assessment, which is examined by public health agencies, such as WHO, to determine the extent of possible human health risks and necessary actions.

Resources

IARC: <http://www.iarc.fr/>

IARC Monographs:
<http://monographs.iarc.fr/>

WHO International EMF Project:
<http://www.who.int/emf>



Where to go for more information

GSMA: <http://www.gsmworld.com/health>