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IARC Monographs evaluate pentachlorophenol and some related compounds

Lyon, France, 24 October 2016 – An international Working Group of 18 scientists convened by the International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization, has evaluated the carcinogenicity of five chemical agents: pentachlorophenol, 2,4,6-trichlorophenol, 3,3',4,4'-tetrachloroazobenzene, aldrin, and dieldrin.

A summary of the final evaluations, based on the latest available scientific literature, is available online in [The Lancet Oncology](#). The detailed assessments will be published as Volume 117 of the IARC Monographs.

Pentachlorophenol (PCP)

The insecticide PCP is classified as a persistent organic pollutant under the Stockholm Convention. PCP is a multipurpose pesticide that has mainly been used as a wood preservative. It has also been used as a biocide in the leather and textile industries. In Europe and North America, the sale to consumers of products containing PCP has been restricted since the 1990s.

PCP was classified by the Working Group as *carcinogenic to humans* (Group 1), based on *sufficient evidence* that PCP causes non-Hodgkin lymphoma in humans. In all of the available epidemiological studies, exposure to PCP was positively associated with non-Hodgkin lymphoma.

2,4,6-Trichlorophenol (TCP)

TCP is a related pesticide that has been used as a wood preservative and for treating animal pelts and leather, as well as in the production of PCP and other chemicals.

TCP was classified by the Working Group as *possibly carcinogenic to humans* (Group 2B), based on *sufficient evidence* for its carcinogenicity in experimental animals.

Aldrin and dieldrin

Aldrin and dieldrin are closely related organochlorine pesticides that were widely used in the past to control soil insects such as termites and ants. Their use has been severely restricted in many countries since the 1970s, but they are extremely persistent in the environment and in humans and animals.

Dieldrin, and aldrin metabolized to dieldrin, was classified as *probably carcinogenic to humans* (Group 2A). For aldrin, there was *sufficient evidence* for cancer in experimental animals, but epidemiological data on aldrin were *inadequate*. However, since aldrin rapidly converts to dieldrin in the body, exposure to aldrin inevitably entails internal exposure to dieldrin. For dieldrin, there was *limited evidence* for breast cancer in humans and *sufficient evidence* for cancer in experimental animals.

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3,3',4,4'-Tetrachloroazobenzene (TCAB)

TCAB is not produced or used intentionally but is a contaminant generated in the production of several commonly used herbicides, such as propanil, linuron, diuron, and neburon.

TCAB was classified as *probably carcinogenic to humans* (Group 2A). There was *sufficient evidence* in experimental animals for the carcinogenicity of TCAB. TCAB was assigned to Group 2A because, based on mechanistic considerations, it belongs to a class of agents for which one or more members have been classified in Group 1 or Group 2A. Specifically, TCAB activates the aryl hydrocarbon receptor (AhR) and causes a range of related effects, including tumours in experimental systems. Agents that activate AhR include dioxin, which has been classified in Group 1 since 1997, as well as other agents that have been classified in Group 1 (such as polychlorinated biphenyls) and in Group 2A (such as polybrominated biphenyls).

Note to the Editor:

The IARC Monographs Programme seeks to classify cancer hazards, meaning the potential of any substance to cause cancer based on current knowledge. The classification does not indicate what level of risk exists to people's health associated with exposure to a classified hazard.

For more information on the IARC Monographs classification, read the [IARC Monographs Q&A](#):

<http://www.iarc.fr/en/media-centre/iarcnews/pdf/Monographs-Q&A.pdf>