

**Actions from Peer Review of the Draft Report on Carcinogens  
Monograph on Cobalt and Certain Cobalt Compounds  
July 22, 2015**

The NTP Monograph Peer-Review Panel (“the Panel”) was convened on July 22, 2015, to peer review the *Draft Report on Carcinogens Monograph on Cobalt and Certain<sup>1</sup> Cobalt Compounds* (available at <http://ntp.niehs.nih.gov/go/38854>). A meeting report will be prepared and posted to the NTP website when completed. The Panel peer reviewed the draft monograph and provided its opinion on the NTP’s draft conclusions for the level of evidence for carcinogenicity from human studies and experimental animal studies and the NTP’s preliminary listing decision for cobalt and certain cobalt compounds. NTP will consider the Panel’s peer-review comments in finalizing the monograph. When completed, the monograph will be published on the NTP website (<http://ntp.niehs.nih.gov/go/roc>).

The Panel concurred with the statement that a significant number of persons living in the United States are exposed to cobalt and certain cobalt compounds.

The Panel voted (8 yes, 1 no, 0 abstentions) that the scientific information presented from human cancer studies supports the NTP’s preliminary level of evidence conclusion of *inadequate evidence of carcinogenicity* of cobalt and certain cobalt compounds. The Panel agreed unanimously (9 yes, 0 no, 0 abstentions) that NTP should review the literature on human cancers and cobalt-containing joint replacements and convene another peer review if they identify any relevant data that might change the evaluation.

The Panel concurred that the mechanistic data are relevant to humans and supported grouping cobalt and certain cobalt compounds that release cobalt ion *in vivo* as a class.

The Panel agreed unanimously (9 yes, 0 no, 0 abstentions) that the scientific information presented from studies in experimental animals supports the NTP’s preliminary level of evidence conclusion of *sufficient evidence of carcinogenicity* of cobalt and cobalt compounds that release cobalt ions *in vivo*. This is based on increased incidences of malignant and/or combined malignant and benign neoplasms induced in rodents by different forms of cobalt in inhalation and injection studies. The Panel recommended using the definition of “certain cobalt compounds,” i.e., “cobalt compounds that release cobalt ions *in vivo*” in the listing rather than the word “certain.” The listing would be “cobalt and cobalt compounds that release cobalt ions *in vivo*.”

The Panel agreed unanimously (9 yes, 0 no, 0 abstentions) with the NTP’s preliminary policy decision to list cobalt and cobalt compounds that release cobalt ions *in vivo* in the Report on Carcinogens as *reasonably anticipated to be human carcinogens* based on sufficient evidence of carcinogenicity from studies in experimental animals and supporting data from studies on mechanisms of carcinogenesis.

---

<sup>1</sup> “Certain” refers to those cobalt compounds – including soluble and poorly water-soluble cobalt compounds and particles - that can release cobalt ions *in vivo*, which mechanistic data indicate are key for cobalt-induced carcinogenicity.