



E X T E R N A L M E M O R A N D U M

TO: Dr. Yun Xie, Ph.D.
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FROM: Dr. Ellen T. Chang, Sc.D.
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DATE: July 1, 2016

SUBJECT: Comments on the Draft NTP Monograph on Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid (PFOA) or Perfluorooctane Sulfonate (PFOS)

Dear Dr. Xie and colleagues,

I appreciate the opportunity to submit comments on the Draft NTP Monograph on Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid (PFOA) or Perfluorooctane Sulfonate (PFOS). In general, this is a thorough and well-documented systematic review of the epidemiologic and toxicological literature on the potential immunotoxic effects of PFOA and PFOS.

I am writing to express concerns regarding the hazard classification scheme used by NTP to reach the conclusion that PFOA and PFOS are “presumed to be an immune hazard to humans,” and also to draw attention to the limitations and inconsistencies in the underlying scientific literature on the immunotoxicity of PFOA and PFOS, with a focus on the epidemiologic literature. The hazard classification scheme does not give sufficient weight to a high risk of bias as a “factor decreasing confidence” in the body of scientific evidence, and it also gives undue weight to confidence in the animal evidence in the absence of confidence in the human evidence on a given health endpoint. In addition, NTP overstates the consistency of the epidemiologic evidence on antibody-mediated immune suppression and does not adequately acknowledge the potential for confounding in the available epidemiologic literature. These points and others are addressed in the attached comments.

Sincerely,

[Signature Redacted]

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