Systematic Review of Perchloroethylene and Non-Hodgkin's Lymphoma

The association between perchloroethylene (PCE) and Non-Hodgkin's Lymphoma (NHL) has been evaluated by several agencies, but none have systematically incorporated individual aspects of study quality in their causal evaluations. A systematic review of epidemiology studies with an independent detailed assessment of exposure measurement, exposure levels, study design, and potential confounding was conducted, and other aspects of quality were considered less formally. Eighteen cohort studies of fifteen unique cohorts, seventeen case-control studies of fourteen unique population groups, and three ecological studies were identified. None of these studies were considered high quality for all four critical quality elements, and all had major methodological study limitations. Reported risk estimates ranged widely, were mostly null, and often had extremely wide confidence intervals, indicating unstable risk estimates. The evidence for dose-response was also inconsistent. Although it is not clear whether animal models are relevant to humans, there is no evidence that oral or inhalation exposure to PCE causes lymphomas in animal models and no evidence for a biologically plausible mechanism by which PCE could cause NHL. Overall, the evidence does not support an association between PCE exposure and NHL.

Conflict of Interest: Options – 1) "The research described in this presentation was supported by an entity that manufactures and/or distributes a material that is the subject of this presentation. 2) One or more authors (or immediate family members) is/are employed by an entity that manufactures and/or distributes a material that is the subject of this presentation. 3) One or more authors (or immediate family members) has/have a
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Keywords: 3 drop down options – epidemiology, halogenated hydrocarbons, volatile organic compounds. Also a write-in option for anything missed and a write-in option for "Chemical Entity"