

ATSDR/NCEH Comments on the IRIS Dichloromethane draft: January 27, 2010

Submitted by Paula Burgess, MD, MPH

ATSDR/NCEH appreciates the opportunity to review the IRIS draft document on dichloromethane. Overall, this toxicological review is well written. EPA has clearly synthesized the scientific evidence and presents a non-cancer and cancer hazard assessment of dichloromethane that is logical, transparent, and concise.

While the derivation of the RfC of 0.2 mg/m³ and the selection of the critical effect of hepatic vacuolization is scientifically sound, we believe this process would be improved by deriving the RfC from a human study utilizing neurological effects as the critical end point. The two studies (Cherry et al, 1983; Lash et al 1991) mentioned in section 5.2.6, "RfC Comparison information" measured neurological function in humans subsequent to inhalation exposure to dichloromethane and derived RfDs of 3.5 mg/m³ (Cherry et al) and 0.55 mg/m³ (Lash et al). These two studies with human neurological endpoints offer more relevance and biological significance than the relatively nonspecific (hepatic vacuolization) endpoints in rats from which the proposed RfC of 0.2 mg/m³ is derived.