

August 8, 2011

**Comments on EPA Draft Dichloromethane Assessment**  
**from NIEHS/NTP**

The report “Toxicological review of dichloromethane (methylene chloride)” prepared by the USEPA describes the toxicological, epidemiological and pharmacokinetic data available to assess the risks associated with exposure to dichloromethane. This report is well written and provides a transparent description of the variety of approaches available and the choices made by the USEPA. The Agency considers the most recent mechanistic data and models and applies them in a logical manner to estimate the risks. There are a few specific comments below:

Page 15 2<sup>nd</sup> paragraph: “*A possible resolution of these apparent in vitro versus in vivo discrepancies is discussed in Section 3.5.5 (in particular, see Figure 3-6).*” In this section, it is not clear what discrepancies are under discussion. This is cleared up later but at this point it is not clear.

Page 16 First full paragraph “*In another study of seven human subjects, lysates of erythrocytes showed high activities for producing formaldehyde from dichloromethane (presumably via GST-T1) in three subjects (15.4, 17.7, and 17.8 nmol product/minute/mg hemoglobin) and lower activity in the other four subjects (4.3, 6.0, 7.2, and 7.6 nmol product/minute/mg hemoglobin) (Hallier et al., 1994).*” The units are wrong here. The units are pmol/min/mg hemoglobin. Same for the population with lower activity. The term high activity is somewhat does not seem appropriate here. The samples were incubated with 48 mM (432umol total) of dcm and after 1hr 0.0017umol of formaldehyde were produced. This is less than 1e-6% of the dcm forming formaldehyde. The relevance of this study is unclear. Aside from the limited metabolism, under what exposure conditions would one get 48 mM concentrations in the blood? I would guess that these concentrations are about 1000 times higher than possible.