

ENSR

[Address, city, state, zip]

T [Phone] F [Fax] www.ensr.aecom.com

MemorandumDate: October 2, 2008To: Jason Barrett/EDAWFrom: Ishrat Chaudhuri/ENSRSubject: Carbon Black in PEX

Distribution: _____

I reviewed the potential for carbon black to be present in PEX, and the Prop 65 listings for carbon black. Based on my review, it appears that even if carbon black were present in some types of PEX, it should not be considered a Prop 65-listed chemical.

Ms. Kelly Taber's letter dated July 8, 2008 addresses this issue. As Ms. Taber notes in her letter, there are two Prop 65 listings for carbon black. One listing is for carbon black as airborne unbound particles of respirable size, and the other listing is for carbon black extract. Airborne unbound particles indicate that this form of carbon black is only a problem through the inhalation pathway and as unbound particles (http://www.oehha.org/prop65/prop65_list/022103not.html). Exposure to carbon black in this form would not occur if it is bound within a matrix, as is likely to be the case for carbon black present in PEX piping. Therefore, the Prop 65 listing for carbon black as airborne unbound particles of respirable size does not apply in this case.

It is also unlikely that carbon black extracts would be released in PEX. According to the International Agency for Research on Cancer (IARC, 1996¹), typical classes of chemicals adsorbed onto the carbon black surface are polycyclic aromatic hydrocarbons (PAHs), nitro derivatives of PAHs and sulfur-containing PAHs. It is necessary to use prolonged extraction (such as Soxhlet extraction with benzene or toluene) to release these PAHs (IARC, 1996). These types of extraction processes would not occur with carbon black present in PEX. In an e-mail from Mr. Clif McLellan of NSF dated May 4, 2008, he stated that any concern with carbon black extracts would be associated with PAHs, which have never been observed in NSF's testing of PEX.

Therefore, the specific forms of carbon black that are listed under Prop 65 do not apply to PEX. In addition, it appears that carbon black is typically not an ingredient of PEX.

¹ International Agency for Research on Cancer (IARC) - Summaries & Evaluations. CARBON BLACK (Group 2B). **VOL.:** 65 (1996) (p. 149)