PENTACHLOROPHENOL TASK FORCE

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By E-mail at whiteld@niehs.nih.gov
Dr. Lori White
NTP Designated Federal Official, Office of Liaison, Policy and Review
DNTP, NIEHS
P.O. Box 12233
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Re: **Draft Report on Carcinogens Monographs for Pentachlorophenol and By-Products of Its Synthesis; Availability of Documents; Request for Comments; Notice of Meeting, 78 Fed. Reg. 51,733 (Aug. 21, 2013)**

Dear Dr. Lori White:

The Pentachlorophenol Task Force ("PTF"), representing the U.S. and Canadian registrant of the wood preservative Pentachlorophenol ("penta" or "PCP"), appreciates the opportunity to comment on the draft NTP "Report on Carcinogens Monograph on Pentachlorophenol and By-Products of Its Synthesis". The following comments pertain to Section 1 of the report, Properties and Human Exposure (hereinafter ("NTP Report"). The NTP Report includes information about the synthesis of pentachlorophenol by-products, especially dioxins and furans. It includes the information that "2,3,7,8-TCDD has rarely been detected in commercial preparations of pentachlorophenol"(page 4). The current manufacturer of pentachlorophenol registered in the United States and Canada (KMG Chemicals, Inc.) has committed extensive resources to improving production methods to minimize the formation of dioxins and furans in its product. Analysis of the product has shown that there is no 2,3,7,8-TCDD at a limit of detection of 0.0189 to 0.0721 ng/g, based on 9 samples reflecting typical commercial production during the period May, 2011 to August, 2012. This is confirmed by biomonitoring results in Table 1-4 of the NTP report, which show that residents near wood treating facilities have slightly lower concentrations of 2,3,7,8-TCDD than the general population. As noted in the NTP report, exposures to pentachlorophenol by-products as determined by biomonitoring results have shown a great reduction in the detection in body fluids since the limitation on use of pentachlorophenol to a restricted-use heavy duty wood preservative. Now the majority of pentachlorophenol is used in wood treatment for utility poles and cross arms. The other uses referred to in the Monograph (page 7) in leather tanning and paint or glue manufacturing as well as agricultural and textile uses and use in log homes were eliminated in the late 1980s.

The continued presence of the higher chlorinated dioxin congeners in populations near wood treatment facilities may be primarily a result of the continued presence of these congeners in the soil around these facilities, rather than from a current active source. As part of the reregistration of pentachlorophenol, USEPA has required additional mitigation to further reduce emissions from

treatment facilities. These mitigation measures also will reduce exposures to workers in these facilities. It should be noted that much of the information cited in the section about worker exposure is from studies done in the 1980s or even earlier. Even prior to the most recent reregistration standard which will take effect by December 21, 2013, personal protective equipment had been required since the early 1990s that has reduced the exposure to workers in manufacturing and treatment facilities. As the NTP Report (page 8):

> "The major route of exposure for workers using pentachlorophenol to treat wood is dermal . . . Exposure to wood preservatives can occur in a variety of ways, including during mixing and handling of the chemicals, entering pressure-treatment cylinders, preservative spraying or dipping, handling freshly treated wood, cleaning or repairing equipment, or disposing of wastes. . . Inhalation can also occur in these occupational setting during pressure treating of wood; inhalation exposure can occur when the door to the pressure chamber is opened."

The Reregistration Standard has addressed these routes of exposure by requiring additional engineering controls or personal protective equipment (PPE). These requirements are provided as Attachment 1. For example, automatic, remotely operated devices must be used to open, close, lock, and unlock cylinder doors, and prior to opening of cylinder doors, the cylinder must be placed under vacuum to remove excess preservative from the wood. There are specific requirements for personal protective equipment for tasks such as handling wood, cleaning or repairing equipment etc. Preservative spraying as referenced above is no longer allowed.

We would also like to highlight another paragraph from the NTP report (page 18) which states:

> "A potential source of pentachlorophenol exposure to people that was not taken into account in the models described above is the metabolic transformation of other chlorinated compounds within the body (WHO 1987). The chlorinated compounds that can give rise to pentachlorophenol include hexachlorobenzene, pentachlorobenzene, pentachloronitrobenzene, -2,3,4,5,6-pentachlorocyclohexene, lindane, and other hexachlorocyclohexanes. WHO suggested that this source of endogenous production of pentachlorophenol, particularly from hexachlorobenzene, could explain the low level of pentachlorophenol excretion from people with no apparent exposure to pentachlorophenol; however, the extent to which this occurs has not been established."

The description of much of the biomonitoring data referenced Section 1.5.1 implies that the only source of pentachlorophenol detected is from exposure to pentachlorophenol. As noted in the above quoted paragraph, there are multiple chemicals, especially, hexachlorobenzene, that are metabolized to pentachlorophenol and measured as pentachlorophenol in biomonitoring studies.

Furthermore, on page 14 of the Monograph, release data are presented. We note that "Releases to land (RCRA Subtitle C landfills) accounted for 92.9% of total releases, off-site disposal for 6.3%, releases to water for 0.5%, and releases to air for 0.3%" indicating that the exposure potential from these releases is small. With respect to sources of exposure, as noted above, use in log homes is no longer allowed and as the NTP Report notes, exposure to pentachlorophenol from soil around utility poles is only of concern within inches of the poles, as the concentration drops exponentially with distance from the pole (page 16). Modeling results for exposure values from the 1980s (page14) do not reflect exposures from pentachlorophenol from current allowed uses. Indeed the discussion of

detection in food is indicative of the reduction in exposure from the current limited use pattern (page 17):

> "Pentachlorophenol was also reported in a wide variety of foods such as meats, fish, dairy products, grains and vegetables (see Appendix B, Table B-9) in studies from Canada, the United Kingdom, and Germany from the 1980's. Levels of pentachlorophenol in food varied in the different studies and no clear patterns were observed for specific types of food or geographical areas. In a more recent report, no pentachlorophenol was detected in 1995 to 1996 in a Danish National Pesticide Monitoring Program that sampled fruits, vegetables, dairy foods, meats, and other foods (ATSDR 2001)."

Based on the information discussed above, we respectfully disagree with the conclusion that "U.S. exposure to pentachlorophenol and by-products of its synthesis is significant based on available biomonitoring data, its widespread past use as a pesticide, and current use in treated-wood products." (page 18). The current uses of pentachlorophenol in wood treatment do not lead to significant exposures. Pentachlorophenol is detected in biomonitoring studies, but the concentrations are the result of exposures to multiple chemicals that metabolize to pentachlorophenol, not just to exposure from pentachlorophenol. We hope that the final NTP Report reflects the current situation, rather than relying on exposure data that was collected during a very different use scenario.

We thank you for your time.

Respectfully submitted.
[Redacted]

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