



Darren Wilson  
Environmental Manager  
Port Townsend Paper Corporation

JULY 5, 2018

Dear Darren,

You had called to discuss the emission factor for naphthalene in Table 10.4 (OCC & Recycled Paperboard Stock Preparation) of NCASI Technical Bulletin No. 973. Two sources were tested during our MACT III testing program in the early 90s and both sources yielded a non-detect result (ND[7.4E-04] & ND[4.0E-04] lb/ADTP). You asked about the validity of these emissions from such a source and whether it made sense to use ½ the maximum detection limit as a representative average.

First, as you may have noted both from our master database on air toxics (members only) as well as from TB 973, as a rule NCASI does not assign a value to an average if all observations in a data set are found to be non-detect. This is done by the user on a case-by-case basis, depending on the circumstances.

More importantly, however, Robert Crawford of our staff (currently Program Manager, Wood Products), who supervised the overall testing during the MACT III testing program, and was also involved in putting together the "initial target analyte list of compounds to test for in MACT III sources", has the following to say regarding naphthalene emissions from OCC & Recycled Paperboard Stock Preparation vents:

"The data in Technical Bulletin No. 737 were developed from the MACT III Study, which included sources associated with OCC stock preparation, recycled paperboard, mechanical pulping, deinking processes, and paper machines not integrated with chemical pulp mills.

As reported in Technical Bulletin No. 736, to develop the analyte list for air emission testing, liquid samples were collected from 33 mills and analyzed for a wide range of organic HAP compounds. Only compounds which were detected in liquid samples were included in the analyte list for air emissions testing.

Naphthalene was detected in liquid samples collected from mechanical pulp mills, deinking mills, and non-integrated paper machines. However, it was not detected in samples from recycled paperboard or OCC stock preparation. Since naphthalene was detected in liquid samples from some of the process types, it was included in the air emissions testing analyte list which was used for all process types, regardless of whether naphthalene had been detected in the liquid samples from a process type. This was done simply because it was expedient to use the same analyte list and methods for all the sources included in the MACT III Study.

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Since naphthalene was not detected in the liquid samples, nor the air samples, associated with OCC stock preparation processes, there is no reason to believe that it is present in those sources. Thus, it seems that naphthalene should be left out of the modeling, rather than included at one-half of the detection limit, since there is no reason to suspect that it is present in the OCC stock preparation area."

I would like to add that from a fundamental chemistry point-of-view there is no likelihood of naphthalene being produced as a result of OCC stock preparation. Also, the chances of this compound being present in the OCC fiber being brought into the mill for repulping is also very remote. Naphthalene is one among the group of so-called polycyclic aromatic hydrocarbons (PAHs) and PAHs are generally generated as a result of poor combustion (coal, oil, gas, wood, black liquor, mainly biomass). Alternately, they are emitted based on their presence in certain solvents containing naphtha cuts, etc. that may be used in certain mill unit operations. In the past, solvents used for the handling of so-called "stickies" on paper machines have been known to include naphtha cuts (although this may not be current practice).

In conclusion, it appears fairly certain that naphthalene is not emitted from OCC & Recycled Paperboard Stock Preparation vents unless this compound is known to be present in chemicals used in such operations.

Sincerely,



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