

# Air Toxics Science Advisory Committee

## Summary of Information for ABC for Polycyclic Aromatic Hydrocarbons

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## 26 Individual PAHs to Serve as Basis of ABC for Total PAHs

Acenaphthene

Acenaphthylene

Anthracene

Anthanthrene

Benzo(a)pyrene

Benz(a)anthracene

Benzo(b)fluoranthene

Benzo(k)fluoranthene

Benzo( c)pyrene

Benzo(e)pyrene

Benzo(g,h,i)perylene

Benzo(j)fluoranthene

Chrysene

Cyclopenta(c,d)pyrene

Dibenzo(a,h)anthracene

Dibenzo(a,e)pyrene

Dibenzo(a,h)pyrene

Dibenzo(a,i)pyrene

Dibenzo(a,l)pyrene

Fluoranthene

Fluorene

Indeno(1,2,3-c,d)pyrene

Phenanthrene

Pyrene

5-Methylchrysene

6-Nitrochrysene

*Naphthalene  
has separate  
ABC.*

# Use of Toxic Equivalency Factors for PAHs

- Benzo(a)pyrene serves as the index PAH, and has a documented toxicity value to which other PAHs are adjusted
- Other PAHs adjusted using Toxic Equivalency Factors (TEFs), aka Potency Equivalency Factors (PEFs). These values are multipliers and are PAH-specific.
- Once all PAH concentrations are adjusted to account for their relative toxicity as compared to BaP, the concentrations are summed
- This summed concentration is then compared to the toxicity value for BaP, which is used as the ABC for total PAHs.

## Source of PEFs for PAHs

- EPA provides a range of values of PEFs for each PAH
- Original proposal suggested using upper-bound value of each PEF range as the PEF to use for adjustment of our PAHs
- Average PEF value for each PAH is a better approximation of central tendency, and is consistent with the use of PEFs by other agencies
- Result of using average, rather than upper-bound PEFs: slightly lower summed concentrations for adjusted PAHs, thus less apt to exceed ABC for total PAHs

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).