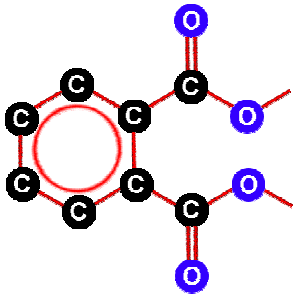
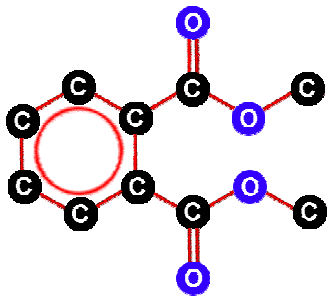
Phthphthphthalates!

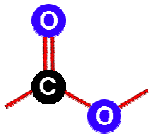
I was working on some illustrations for phthalates, but I don't really know how to draw it best. I could show the part of the molecule that makes it a phthalate, but it really isn't a complete molecule:



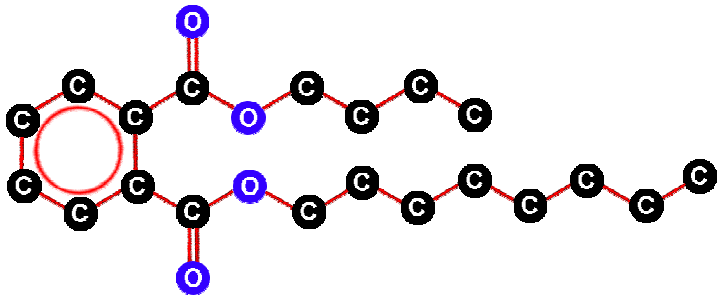
The simplest phthalate would be just one carbon (methyl) string on both ends; a dimethyl phthalate.



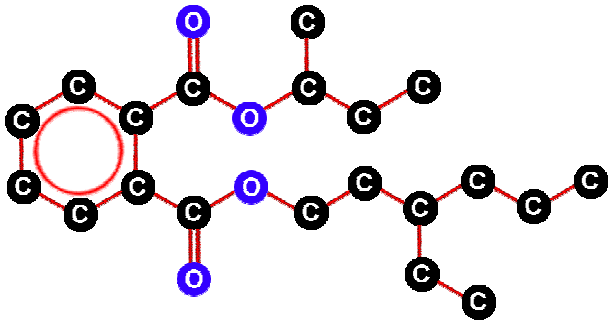
Fact is, though, that one and two carbon groups on phthalates act a little differently because the larger strings tend to squelch the acidic reactivity of that pesky carboxyl group (the double bonded oxygen and single bonded oxygen on the same carbon).



We use 4-16 carbon groups for most phthalates in industry. It tames them down, a lot like dragging that train on a wedding dress stops all that sex stuff (at least with the groom). I drew one structure with a four (butyl) and eight (octyl) carbon group that could be a good example.



This one is pretty simple to name; butyl octyl phthalate (more formally, n-butyl n-octyl phthalate), but if we don't need to name it, I can draw a more commonly used one that doesn't necessarily use n-octane ("normal" octane is one long string of eight carbons). It only depends on the shape of the picture that you want and if you want to publish some long-ass name like 1-methylpropyl 3-ethylhexyl phthalate.



You don't have to use an exact name, so the more important decision may be the shape of the picture that you want, and this one isn't shaped so much like a banner ad.

By the way, it is assumed that if there are less than four lines (bonds) coming from a carbon atom, the rest are hydrogen (for oxygen, it's anything less than two lines). We usually don't draw the hydrogen atoms because they just clutter up the picture – we know that they are there.