Information on chemical content of TwinHill uniform fabrics at Alaska Airlines

Lab testing of samples of the TwinHill flight attendant uniform garments in circulation at Alaska Airlines since Jan. 2011 has confirmed the presence of the following compounds, in the either some or all of the garments tested:

1) Disperse dye orange 37/76 (allergen, restricted substance) – MSDS attached
2) Tributyl phosphate (irritant, possible endocrine disruptor) – MSDS attached
3) 2-ethyl hexyl fumarate (allergen, irritant) – MSDS attached
4) Diisodecyl fumarate (irritant) – MSDS attached
5) Various heavy metals – arsenic, lead, cobalt, chromium, antimony
6) Disperse dyes brown 1, red 17, and blue 102, all allergenic and restricted

Comprehensive testing has not been completed on these uniforms so this may only be a partial list. AFA-CWA recommends that you provide this document and the relevant Safety Data Sheets (posted online) to your doctor, as necessary.

More details:

Three labs have confirmed the presence of tributyl phosphate (TBP) in these fabrics. TBP is a potential endocrine disruptor. It is also an irritant so can compromise the surface of the skin, facilitating the entry of other chemical compounds, like the sensitizer dyes which the University of Washington (UW) has identified in all but one of the suiting pieces tested, plus the uniform sweaters.

UW testing confirmed the presence of various metals including cobalt, chromium, and antimony. In addition, Bureau Veritas (BV; commercial lab) confirmed the presence of lead and arsenic (as well as chromium, listed above). Regarding the BV data, 13 of 35 fabric samples appear to have had levels of lead and arsenic in excess of the Oeko-Tex 100 Standard. A list of arsenic, lead, and chromium compounds used in the textile industry, with links to chemical hazard information sheets, is provided on the AFA uniforms webpage (Google search terms: flight attendant illness uniforms AFA).

Various phthalate compounds have been identified in the fabrics, although these have not been well-characterized.

Hohenstein Institute (commercial lab) confirmed excessive levels of orange disperse dye 37/76 in the pockets fabric for the suiting garments tested, and elevated levels in a skirt lining. The UW lab also identified orange disperse dye 37/76 in some of the garments tested, as well as blue 102, red 17, and brown 1 -- all allergenic dyes.

Contact AFA-CWA (details below) for a copy of any of the test results described above. The exception to this is that AFA-CWA does not have specific data regarding the extent of fabric contamination with diisodecylmaleate and 2-ethylhexyl fumarate, although the university lab that tested a set of uniform fabrics for these compounds did confirm their presence.

For information on alternate uniform options, see the AFA-Alaska Airlines (MEC) bulletin “Your Uniform, Your Health,” revised May 2013. If you have more questions about this fabric test data, contact Judith Anderson (union staff), AFA-CWA Air Safety, Health, & Security Department: judith@AFAnet.org or 206-932-6237.