

SWAB Christopher

From: Mrazek, Steven (Steve) [mrazes@portptld.com]
Sent: Tuesday, April 22, 2003 8:21 AM
To: STOCUM Jeffrey
Subject: Revised Calculations

Dear Jeffrey:

I botched the F-15 calculations. I thought they were turbojets but they are turbofans. It doesn't change much. Sorry for the confusion.

Steve
(503) 460-4545

<<Aircraft Haps Airforce Factors Revision.xls>>

2014年12月

第12期

" 1999 Pdx Aircraft HAPs " sheet

Year 1999	Emission Factor (lb/lb HC) AVERAGE FOR TURBOFANS					Emission Factor (lb/lb HC) AVERAGE FOR TURBOPROPS					Emission Factor (lb/lb HC) AVERAGE FOR APUS Conyanti
	Idle	Approach	Climbout	Takeoff	TurboFAN SUM	Idle	Approach	Climbout	Takeoff		
Benzene	1.77E-02	1.58E-02	5.99E-03	5.79E-03	4.52E-02	1.33E-03	4.94E-03	2.06E-03	1.79E-03	2.20E-01	
1,3-Butadiene	2.28E-02	1.97E-02	2.53E-03	2.53E-03	4.75E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02	1.80E-02	
Toluene	7.30E-03	5.29E-03	3.80E-03	3.01E-03	1.94E-02	7.55E-04	2.54E-03	1.48E-03	5.73E-05	8.30E-02	
Ethyl Benzene	1.37E-03	1.54E-03	1.03E-03	9.93E-04	4.94E-03	2.21E-04	6.88E-04	4.80E-04	4.09E-04	3.04E-03	
m,p-Xylene	2.63E-03	2.93E-03	2.90E-03	2.81E-03	1.13E-02	2.63E-04	8.13E-04	6.38E-04	1.43E-03	3.26E-02	
o-Xylene	1.13E-03	1.46E-03	1.07E-03	1.22E-03	4.88E-03	3.31E-04	3.59E-04	2.58E-04	5.66E-04	5.76E-03	
Total Xylenes	3.76E-03	4.39E-03	3.97E-03	4.03E-03	1.62E-02	5.94E-04	1.17E-03	8.97E-04	1.99E-03	3.96E-02	
Styrene	2.14E-03	2.01E-03	1.10E-03	1.18E-03	6.42E-03	3.45E-04	4.07E-04	4.84E-04	6.55E-04	6.92E-03	
Phenol	2.00E-03	2.41E-03	1.79E-03	1.67E-03	7.87E-03	1.39E-04	5.11E-04	3.05E-04	3.73E-04	1.08E-02	
Naphthalene	2.52E-03	1.88E-03	6.51E-04	4.29E-04	5.48E-03	3.23E-04	1.16E-03	2.72E-04	3.05E-04	1.16E-02	
Formaldehyde	6.69E-02	1.26E-01	5.31E-02	3.56E-02	3.12E-01	1.14E-02	3.71E-02	1.43E-02	8.66E-04	2.42E-01	
Acetaldehyde	4.78E-03	6.98E-03	1.62E-03	2.24E-03	1.56E-02	2.90E-03	0.00E+00	8.35E-04	3.73E-04	3.26E-02	
Acrolein	2.65E-03	3.00E-03	2.18E-03	2.22E-03	1.01E-02	3.04E-05	8.89E-05	6.00E-05	3.55E-05	2.82E-02	

"TurboFan sum" used for Military HAPs specification.

Source: Gerstle, T. P., Virag, M., Wade, and Maj, L. Kimm, 1999. "Aircraft Engine and Auxiliary Power Unit Emissions Testing: Volume 2, Detailed Sampling Approach and Results." US Air Force.
 Institute for Environment, Safety, Occupational Health, Risk Analysis (IERA), Brooks AFB, Texas, March.
 Source: Spicer, C.W., M.W. Holden, T.F. Lyon, and R.M. Riggan, 1984. "Composition and Photochemical Reactivity of Turbine Engine Exhaust." ESL-TR-84-28. Engineering and Services Laboratory, Tyndall Air Force Base, FL.
 Light Yellow Highlight - Used EPA SPECIATE Profile No. 1098.
 Light Blue Highlight - Used Toxic/TOG specification from R. Cook. "Source Identification and Base Year 1990 Emission Inventory Guidance for Mobile Source HAPs on the OAQPS List of 40 Priority HAPs." U.S. EPA, June 11, 1997.

