



## Development of a Novel Noise Delivery System for JP-8 Ototoxicity Studies

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Biblioscholar Okt 2012, 2012. Taschenbuch. Book Condition: Neu. 246x189x7 mm. This item is printed on demand - Print on Demand Neuware - Numerous chemicals with ototoxic properties may cause hearing loss directly, potentiate noise-induced hearing loss, or produce additive effects. Of interest to the US Air Force are studies showing ototoxic effects of JP-8 jet fuel and its hydrocarbon constituents. The Naval Health Research Center (NHRC) at Wright-Patterson AFB, Ohio, in conjunction with the USAF, is studying the ototoxic effects of JP-8 in rats. The study requires a white noise source that is one octave band wide, centered at 8 kHz frequency, delivered from outside of exposure chambers. Sound pressure levels must be within  $\pm 2$  dB at all exposure points within each chamber and within  $\pm 2$  dB over a 6-hour run. Electrodynamics shakers were successfully used to produce the required input noise in three exposure chambers by inducing vibration in chamber plenums. Distribution of sound pressure levels across chamber exposure points were well controlled within a  $\pm 1.5$  dB prediction interval ( $= 0.05$ ) or better. Stability at a central reference point was well controlled over 6-hour runs within a  $\pm 1$  dB prediction interval ( $= 0.05$ )...



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