

# PRIESTLY TOXICOLOGY CONSULTING

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## **Peer Review: EnRiskS report on a Literature Review and Risk Characterisation of Nitrogen Dioxide in Long and Heavily Trafficked Road Tunnels**

### **Comment on EnRiskS response to peer reviewer**

Brian G. Priestly M.Pharm, PhD, FACTRA<sup>1</sup>

6 May 2018

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<sup>1</sup> The relevant experience brought to this task by the author includes:

- Fifteen years of leadership of the Australian Centre for Human Health Risk Assessment at Monash University (part time since 2009)
- Experience in regulatory toxicology in former leadership appointments to the Commonwealth Department of Health in areas of toxicological assessment of agricultural & veterinary chemicals, regulation of medicines, and assessment of chemicals for poisons scheduling
- More than 45 years experience with government expert committees and panels assessing chemical toxicity and chemicals risk management, including issues of air quality assessment
- Peer-reviewed recognition as a Fellow of the Australasian College of Toxicology & Risk Assessment (ACTRA), a professional organisation that I helped to found and for which I served as its inaugural President.

The opinions set out in this report are my own, and do not reflect views of any current (Monash University) or previous employers.

I am satisfied with the comments made by EnRiskS in a letter dated 17 April 2018 in response to my peer review report dated 3 April 2018. My original peer review was quite complimentary of the approach taken in the EnRiskS report and essentially supported its findings.

EnRiskS has noted that the clinical criteria (lung function biomarkers) have been summarised in Tables 3.1 - 3.4, supplemented with additional detail in the tables of Appendix B, and that the final column of Tables 3.1 – 3.4 clearly indicates which criteria have driven the assessment of clinical relevance. I therefore accept that this point was adequately addressed in the original EnRiskS report.

I also accept that broadening of the literature review search criteria would have generated epidemiological studies that would have been less useful to the assessment of short-term health impacts of NO<sub>2</sub>, that were the main focus of the experimental exposure studies. I did acknowledge this point in my peer review and my main purpose in drawing attention to the broader literature was to note that some of the studies so generated may have provided further support for the conclusions of the EnRiskS report. This would have occurred where such studies demonstrate a degree of consistency with the experimental studies, despite an acknowledged potential for confounding by varying exposure durations and exposure to multiple airborne chemicals associated with traffic and urban air pollution. It is noted that EnRiskS has now added an evaluation of the Sinhary *et al* (2018) study that was published after completion of their draft report, and captured in my expanded literature search.

Finally, as suggested in my report, I note that the Tables of Appendices B - D have been amended to show how and where unit conversions were done to maintain consistency of reporting the outcomes in terms of µg/m<sup>3</sup> NO<sub>2</sub>.