



## Memorandum

**Date:** February 27, 2012

**From:** Agency for Toxic Substances and Disease Registry

**Subject:** Comments on EPA's Toxicological Review of Ammonia

**To:** Environmental Protection Agency

ATSDR's Division of Toxicology and Environmental Medicine (DTEM) has completed a second round of review of the IRIS toxicological review of ammonia. We appreciate the opportunity to comment on this revised version of the ammonia documents. As this is our second review, we offer only a few clarifying comments. Overall, we consider the document well-written and appropriate.

Page 6, Table 1-1: Respiratory effects in humans following inhalation exposure. The first entry for the Holness et al., 1989 study (in Results) should indicate that the values presented represent percentages, as is done with the second entry in this table.

Page 9, Table 1-2: Respiratory effects in animals following inhalation exposure. Consider revising the first entry in the table for clarity. This entry combines data from 5 different species into one entry for the Coon et al., 1970 study. The first entry states "Nonspecific lung inflammation observed in guinea pigs and rats but not in other species at 183 mg/m<sup>3</sup>" and the LOAEL is shown as = 183 mg/m<sup>3</sup>. We suggest specifying the species for which the NOAEL or LOAEL was identified, i.e., NOAEL = 183 mg/m<sup>3</sup> for dog and rabbit, LOAEL = 183 mg/m<sup>3</sup> for rats and guinea pigs. This entry also states "focal pneumonitis in 1 of 3 monkeys at 36.9 mg/m<sup>3</sup>." We suggest listing this value as a LOAEL for squirrel monkeys.

Executive Summary, page xx, line 14. Change "biological" to "biologically" plausible.