

93. Dr. Albert Nantel discussed this issue during his testimony to the Committee, stating that he and his co-workers "were struck by the...extremely high incidence of the various infectious phenomena," including ear infections, chronic pharyngitis and dermatitis, among people who complained of ill-effects as a result of prolonged exposure to UFFI. Dr. Nantel has formulated an hypothesis that these illnesses are the result "of a breakdown in the immunological systems of these people".<sup>(79)</sup> Dr. Nantel was careful to emphasize, however, that this was a "working hypothesis, not a demonstrated fact".<sup>(80)</sup>

94. Dr. A.B. Morrison agreed that the issues of the immune system and sensitization to chemicals were important and represent areas where research data are needed before conclusions can be drawn.<sup>(81)</sup> Dr. Morrison was emphatic, however, in stating that the possible effects of UFFI or its breakdown products on the immune system are hypothetical and that "we do not know what we need to know about this whole sensitization phenomenon".<sup>(82)</sup> Dr. Stuart Wiberg, also of Health and Welfare Canada, confirmed that the department was very concerned about the effect of UFFI on the immune process over the long term and had accorded the matter a "very high priority".<sup>(83)</sup>

95. The Committee has been informed by the Department of National Health and Welfare that funding has been provided to several Canadian researchers to study the possible effects of formaldehyde on the human immune system (Appendix IV). We believe that it is entirely premature to reach any conclusions on this subject, or on other questions of health, until the appropriate studies have been carried out and evaluated.

96. On the subject of the relationship of UFFI and formaldehyde to chemical sensitization in humans, Dr. Yves Alarie stated to the Committee that he was unable, in the course of his research, to sensitize experimental animals with formaldehyde vapour. His conclusion is that if formaldehyde "is a sensitizer, it would be an extremely weak one".<sup>(84)</sup>

97. It is known that allergic contact dermatitis can be caused by exposure to formaldehyde solutions (as opposed to vapour) but there is some doubt about the role of formaldehyde gas in causing bronchial asthma. The National Research Council (U.S.A.) Committee on Aldehydes has stated that "...asthmatic attacks are in some cases due specifically to formaldehyde sensitization or allergy", but the chemical "seems to act more commonly as a direct airway irritant in persons who have bronchial asthmatic attacks from other causes".<sup>(85)</sup>

98. Dr. James Day, Head of the Division of Allergy and Immunology at Queen's University in Kingston, Ontario, gave testimony to the Hazardous Products Review Board that is relevant to this discussion. Dr. Day stated that formaldehyde "causes the same symptoms as observed in an allergic reaction" but "whether formaldehyde is, strictly speaking, an allergen, is an open question..."<sup>(86)</sup> Dr. Day suggested that formaldehyde probably acts "as a sensitizer of the respiratory tract in certain individuals.... Allergic persons who might otherwise not react at low levels of formaldehyde would, therefore, be at special risk. When functioning as an allergen, formaldehyde would thus affect a segment of the population which would not otherwise react to exceedingly small doses".<sup>(87)</sup>

99. The question of whether the generally low levels of formaldehyde found in homes insulated with UFFI have a role in allergic or sensitization processes remains unanswered. The Committee hopes that research projects currently being carried out by Dr. Day and others will shed light on this important issue in human health.