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Mr. G. H. Reilly
Director of Safety
National Tube Division
B U I L D I N G

July 1, 1959

Kenneth M. Morse, Director
Industrial Hygiene

Toxic Limits

As per your request, may I suggest you consider including the following information with your transmission of the enclosed tables of "Threshold Limit Values for 1958."

The enclosed list of "Threshold Limits" are known under a variety of names, such as "maximum allowable concentrations," "toxic limits," etc. They are not exact delineations between hazard and non-hazard conditions, since they are derived from a variety of sources. Some are based upon studies with human subjects, others upon opinions derived by interpolating from animal experimental data, while still others are based merely upon unsupported opinions from industrial medical and hygiene authorities. However, the fact remains that these limits are often incorporated into state codes or used by state inspectors as exact numbers above which a condition is dangerous. Therefore, in actual practice, it is important to maintain air concentrations of these gases, vapors, dusts or mists within such levels where possible or protect workers by approved respiratory devices.

These data are the maximum degree of air contamination to which one should be exposed upon a continuous 8-hour daily and 40-hour weekly basis. The data, therefore, are degrees of air contamination which will prevent the development of chronic poisoning arising from continuous day to day exposures. It is our opinion that short-term exposures also should be maintained within such limits where practicable, because of the absence of good data on safe concentrations for preventing acute (sudden) poisoning. This approach is considered to be the best course of action because the human body does not respond in a direct arithmetic relationship with the amount of contaminant in the air. In other words, it would not be prudent to expose an individual for one hour to eight times the values shown in the enclosed table without respiratory protection. Furthermore, state inspectors would no doubt consider such exposures as hazardous to health.

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