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NIOSH RECOMMENDATIONS - SAMPLING PERIOD

We are beginning to see short-term ceilings more frequently in proposed health standards, particularly where NIOSH believes that exposure of workers to repetitive, short-duration spikes over the period of a working lifetime (or less) can play a "causal role" in health defects either temporary or chronic.

This concern is evidenced also by ACGIH in their adoption of Short-Term Exposure Limits (STEL) for many substances. There are now three TLV categories which are applied singly or in combination to the listed substances:

- (1) TLV-TWA - The time-weighted average concentration for 8 hr. day or 40 hr. week, to which nearly all workers may be repeatedly exposed without adverse effect. (1968 TLV's are Federal Standards.)
- (2) TLV-STEL - The maximum concentration to which workers can be exposed for a period of up to 15 minutes continuously without suffering from intolerable irritation, tissue change, or narcosis. Up to four excursions per day are permitted, at least 60 minutes apart, provided the TLV-TWA is not exceeded. (STEL's where listed by ACGIH are tentative values, set for 1976.)
- (3) TLV-C - The concentration that should not be exceeded even instantaneously. (Again, 1968 TLV-C's are Federal Standards.)

NIOSH, meanwhile, is proposing limits in many cases different (usually more conservative) from those adopted by ACGIH, with the added imposition of monitoring requirements if the so-called "action level" is reached. Usually, where NIOSH has recommended a short-term ceiling limit, the duration of the sampling period is based on the length of time necessary to provide an amount of the substance readily amenable to analysis by the method chosen. Therefore, sampling periods can vary widely dependent on the characteristics of the substance, the analytical methods available and other factors.

It gets more complicated when mixtures of regulated substances are present. For example, if exposure to mixtures occurs, provisions of all applicable standards for each chemical must be followed. (The ACGIH method of calculating equivalent exposure was adopted as a Federal Standard.)

The entire picture of developing health standards can be very confusing since it is in such a state of flux. Looking at the future, it is apparent that compliance with health regulations will become much more complicated and the standards generally more restrictive than in the past. Concern about confusion resulting from nonstandard nomenclature is valid, but it appears to be an unavoidable result of regulation. It again underscores the need for strong staff assistance to the line organization to attain and maintain compliance as new standards become effective.

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