TABLE 38-C

DISTRIBUTION OF PROCEDURES USED TO DEVELOP ACGIH TLV'S FOR 414 SUBSTANCES THROUGH 1968*

Procedure	*Number*	*% Total*
Industrial (human) experience	157	38
Human volunteer experiments	45	11
Animal, inhalation-chronic	83	20
Animal, inhalation-acute	8	2
Animal, oral-chronic	18	4 5
Animal, oral-acute	2	0 5
Analogy	101	24

* Exclusive of inert particulates and vapors

Source H E Stokinger, "Criteria and Procedures for Assessing the Toxic Responses to Industrial Chemicals" Permissible Levels of Toxic Substances in the Working Environment, *Occupational Safety and Health Series No 20 International Labor Office, Geneva, Switzerland, 1970*

irritation, narcosis, nuisance, or impairment of health Some substances have the designation "skin" This refers to a potential contribution to the over-all exposure by absorption through the skin or mucous membrane

A TLV of 10 mg/cu m or 30 mppcf is recommended for inert or nuisance particulates which are not listed in the table When extremes of temperature or pressure are encountered, the TLV values should be adjusted to take into account the added stress

The preface to the TLV list further states that these limits are intended for use in the field of industrial hygiene and should be interpreted and applied only by persons trained in this field It emphasizes that they are not intended for use or for modification for use

1 As a relative index of toxicity by making a ratio of two limits

2 In the evaluation or control of community air pollution or air pollution nuisances

3 In estimating the toxic potential of continuous uninterrupted exposures

4 As proof or disproof of an existing disease or physical condition

As stated in Appendix A to the list of TLV's, the test factors to be used for assigning limiting "C" values may be used to determine permissible excursions for the time-weighted average TLV's

Acceptable concentrations

The American National Standards Institute publishes the Z37 series of Acceptable Concentrations (AC) for a number of substances (See Fig 38–3, The Meaning of "Acceptable Concentrations")

The ANSI Z37 Committee has developed a number of innovations in concept In the past, a standard was conceived as a single limit, threshold, or a boundary between what is not and what is healthful But there is no such single boundary, the pattern of exposure in space and time may be variable Therefore, multiple boundaries are needed As the boundaries are not sharp lines between what is and what is not healthful, an explanation of the basis and significance of each of these boundaries is needed These different acceptable concentrations for the same material follow

- **An acceptable ceiling concentration** for protection of health, assuming an eight-hour work day (This is equivalent to the old "maximum allowable concentration")

- **An acceptable time-weighted average** for protection of health, assuming an eight-hour work day (This is within the limits of the previous specified ceiling and defined peaks beyond this ceiling)

- **An acceptable maximum** for peaks above