[b] Approximate milligrams of particulate per cubic meter of air

[g] As sampled by method that does not collect vapors

[h] According to analytically determined composition

[i] For control of general room air, biologic monitoring is essential for personnel control

* 1968 Revision
** 1968 Addition

| Substance | |
|---|---|
| * Asbestos | 12 fibers/ml > 5μ in length[l], or 2 mppcf[k] |
| * Cristobalite | Use one-half the value calculated from the count or mass formulae for quartz |
| * Quartz | (1) TLV for respirable dust in mg/m³: $\frac{10 \text{ mg/cu m}^{m}}{\text{Per cent Respirable Quartz} + 2}$ (2) Total dust respirable and nonrespirable: $\frac{30 \text{ mg/cu m}}{\text{Per cent Quartz} + 2}$ |
| * Tridymite | Use one-half the value calculated from formulae for quartz |

[l] As determined by the membrane filter method at 430 x-phase contrast magnification

[k] As counted by the standard impinger, light field count technique

[m] Both concentration and per cent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics

| Aerodynamic Diameter-μ (unit density sphere) | Per cent passing selector |
|---|---|
| ≤ 2 | 90 |
| 2.5 | 75 |
| 3.5 | 50 |
| 5.0 | 25 |
| 10 | 0 |

* 1968 Revision

## Appendix A

[A1] Benzidine Because of high incidence of bladder tumors in man, any exposure, including skin, is extremely hazardous

[A2] β-Naphthylamine Because of the extremely high incidence of bladder tumors in workers handling this compound and the inability to control exposures β-naphthylamine has been prohibited by the State of Pennsylvania from manufacture, use and other activities that involve human contact

[A3] N-Nitrosodimethylamine Because of extremely high toxicity and presumed carcinogenic potential of this compound, contact by any route should not be permitted

[A4] Polytetrafluoroethylene* decomposition products Thermal decomposition of the fluorocarbon chain in air leads to the formation of oxidized products containing carbon, fluorine and oxygen Because these products decompose in part by hydrolysis in alkaline solution, they can be quantitatively determined in air as fluoride to provide an index of exposure No TLV is recommended pending determination of the toxicity of the products, but air concentrations should be minimal

[A5] β Propiolactone Because of high acute toxicity and demonstrated skin tumor production in animals, contact by any route should be avoided

[A6] Gasoline and/or Petroleum Distillates The composition of these materials varies greatly and thus a single TLV for all types of these materials is no longer applicable In general, the aromatic hydrocarbon content will determine what TLV applies Consequently the content of benzene, other aromatics and additives should be determined to arrive at the appropriate TLV (Elkins, *et al* A I H A J 24, 99, 1963)

* Trade Names Algoflon, Fluon, Halon Teflon, Tetran

## Appendix B

### B 1 THRESHOLD LIMIT VALUES FOR MIXTURES

When two or more hazardous substances are present, their combined effect, rather than that of either individually, should be given primary consideration In the absence of information to the contrary, the effects of the different hazards should be considered as additive That is, if the sum of the following fractions,

$$\frac{C_1}{T^1} + \frac{C_2}{T^2} + \cdots \frac{Cn}{Tn}$$

exceeds unity, then the threshold limit of the mixture should be considered as being exceeded $C_1$ indicates the observed atmospheric concentration, and T, the corresponding threshold limit, (See Example 1A n)

Exceptions to the above rule may be