

TLVs
Threshold Limit Values
for
Chemical Substances
and
Physical Agents
in the
Workroom Environment
with
Intended Changes
for
1981



CBY 3102511

C 000170

LAM022080

MINERAL DUSTS

Substance SILICA, SiO₂

Crystalline Quartz

TLV in mppcf^{a)}:

300^{a)}

% quartz + 10

TLV for respirable dust in
mg/m³:

10 mg/m³^{a)}

% Respirable quartz + 2

TLV for "total dust," respirable
and nonrespirable:

30 mg/m³

% quartz + 3

Cristobalite Use one-half the value calculated
from the count or mass formulae
for quartz.

Tridymite Use one-half the value calculated
from formulae for quartz.

Silica, fused Use quartz formulae.

Tridymite Use respirable^{a)} mass quartz for-
mula

**Amorphous (20 mppcf^{a)})

SILICATES (< 1% quartz)

Asbestos

Amosite 0.5 fiber > 5μm/cc, A1a

Chrysotile 2 fibers > 5μm/cc, A1a

Crocidolite 0.2 fiber > 5μm/cc, A1a

Other forms 2 fibers > 5μm/cc, A1a

Mica 20 mppcf

Mineral wool fiber 10 mg/m³

Perlite 30 mppcf

Portland Cement 30 mppcf

Soapstone 20 mppcf

**Talc (nonasbestiform) ... (20 mppcf)

**Talc (fibrous), (use As-
bestos limit.)

**See notice of intended changes

COAL DUST

2 mg/m³ (respirable dust fraction < 5% quartz).

If > 5% quartz, use respirable mass formula.

NUISANCE PARTICULATES

(see Appendix D)

30 mppcf or 10 mg/m³^{a)}

of total dust < 1% quartz, or, 5 mg/m³ respirable dust.

Conversion factors:

mppcf × 35.3 = Million particles per cubic meter
= particles per cc

- g) Millions of particles per cubic foot of air, based on impinger samples counted by light-field technics.
- h) The percentage of quartz in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.
- i) Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic Diameter (μm) (unit density sphere)	% passing selector
≥ 2	90
2.5	75
3.5	50
5.0	25
10	0

- j) containing < 1% quartz; if quartz content > 1%, use formulae for quartz.
 - k) Lint-free dust as measured by the vertical-elutriator, cotton-dust sampler described in the Transactions of the National Conference on Cotton Dust, J. R. Lynch, pg. 33, May 2, 1970.
 - l) As determined by the membrane filter method at 400-450X magnification (4 mm objective) phase contrast illumination.
 - m) Based on "high volume" sampling.
 - n) "Respirable" dust as defined by the British Medical Research Council Criteria (1) and as sampled by a device producing equivalent results (2).
- (1) Hatch, T. E. and Gross, P., Pulmonary Deposition and Retention of Inhaled Aerosols, p. 149.

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