

Excerpts from COSHH Regulations and EH40/2005 Workplace Exposure Limits relating to low toxicity dusts

COSHH ACOP

COSHH Regulation 2(1):

“substance hazardous to health” means a substance (including a preparation) –

- (a) which is listed in Part I of the approved supply list as dangerous for supply within the meaning of the CHIP Regulations and for which an indication of danger specified for the substance is very toxic, toxic, harmful, corrosive or irritant;
- (b) for which the Health and Safety Commission has approved a workplace exposure limit;
- (c) which is a biological agent;
- (d) which is dust of any kind, except dust which is a substance within paragraph (a) or (b) above, when present at a concentration in air equal to or greater than –
 - (i) 10 mg/m^3 , as a time-weighted average over an 8-hour period, of inhalable dust, or
 - (ii) 4 mg/m^3 , as a time-weighted average over an 9-hour period, of respirable dust;
- (e) which, not being a substance falling within sub-paragraphs (a) to (d), because of its chemical or toxicological properties and the way it is used or is present at the workplace creates a risk to health;

COSHH guidance:

15 Dust of any kind can also become a substance hazardous to health under COSHH when it is present at concentrations in the air equal to or greater than 10 mg/m^3 (as a time-weighted average over an 8-hour period) of inhalable dust or 4 mg/m^3 (as a time-weighted average over an 8-hour period) of respirable dust. Good occupational hygiene practice recommends that those levels should be the highest concentrations of dust to which employees should be exposed. However, there may be dusts with no formal occupational exposure limit (OEL) and which are not listed in CHIP, but for which limits lower than 10 mg/m^3 or 4 mg/m^3 would be appropriate, because of evidence of potential hazards to health. For these dusts, employers are advised to set their own in-house standards.

16 The definitions of ‘inhalable dust’ and ‘respirable dust’ include references to BS EN 481:1993 which relates to the British Standard *Workplace Atmospheres. Size fraction definitions for measurement of airborne particles*. This is the English language version of the European Standard approved by the European Committee for Standardization (CEN).

17 The ‘catch-all’ part of the definition of ‘substance hazardous to health’ in sub-paragraph (e) brings within the scope of the Regulations all other potentially hazardous substances not covered by the specific descriptions in sub-paragraphs (a) – (d). Although these will include other hazardous substances which may present only a very small risk in the workplace, an employer’s main concern should be with those substances which may pose a risk comparable with those created by the substances covered by sub-paragraphs (a) – (d).

18 Employers should regard a substance as hazardous to health if it is hazardous in the form in which it may occur in the work activity. A substance hazardous to health need not be just a single chemical compound, but also includes mixtures of compounds, micro-organisms, allergens etc.

EH40/2005 Workplace exposure limits

42 The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m^{-3} 8-hour TWA of inhalable dust or 4 mg.m^{-3} 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Advice on control is given in EH44 *Dust: General principles of protection* and in the great majority of workplaces reasonable control measures will normally keep exposure below these levels. However,

some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit.

43 Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'.

44 Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3 *General methods for sampling and gravimetric analysis of respirable and inhalable dust*.

45 Where dusts contain components that have their own assigned workplace exposure limits, all the relevant limits should be complied with.