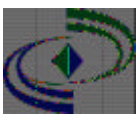
Occupational Exposure Limits

IAMOND
nvironmental Ltd

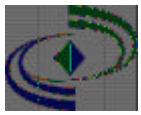
Occupational Exposure Standard (OES)

"The concentration of an airborne substance averaged over a reference period, at which, according to current knowledge, there is no evidence that it is likely to be injurious to employees if they are exposed by inhalation to that concentration day after day"



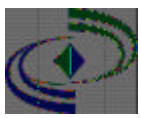
Occupational Exposure Standard (OES)

- Reduce exposure to meet the limit
- If limit exceeded, must be met "as soon as reasonably practicable"



Maximum Exposure Limit (MEL)

"the maximum concentration of an airborne substance, averaged over a reference period, to which employees may be exposed under any circumstances"



Maximum Exposure Limit (MEL)

- Must not normally be exceeded
- Short term MEL must *NEVER* be exceeded
- Further duty to reduce exposure "so far as is reasonably practicable"

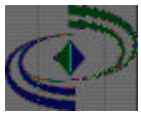
Reference Periods

- 8 hours
- 15 minutes (STEL)
- If no STEL set, concentration of 3 x value of 8 hour limit used for 15 minute exposures

Units

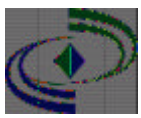
- Dusts
  - mg/m3
- Gases / Vapours
  - mg/m3
  - parts per million

$$\text{OEL in mg/m3} = \frac{\text{OEL in ppm x MWt}}{24.06}$$



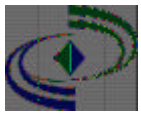
Combined Exposures

- Independent
- Additive
- Synergistic



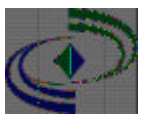
Other Considerations

- "Skin"notation
  - skin absorption can be a significant route of exposure
- "Sen" notation
  - respiratory sensitiser
- ILV notation
  - indicative limit value (EC)
- Bmgv
  - Biological Monitoring Guidance Value



Other Considerations *(continued)*

- Total and respirable particulates
- Soluble and insoluble compounds
  - e.g. nickel
- Oxidation states
  - e.g. chromium
- Limits for different compounds of an element
  - e.g limits for oxide fume, cadmium sulphide (respirable) and other compounds
- Particulates not otherwise classiffied



Substances Without OELs

"Exposure should be controlled to a level to which nearly all the working population could be exposed, day after day at work, without risks to health"

COSHH ACoP para 38