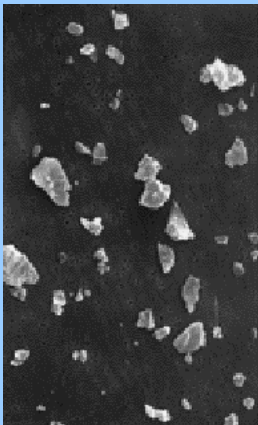




Workers Exposed to Dust

Solutions:

- Annual dust assessments
- Train staff to always wear PPE
- Sweep hard stand areas
- Install dust collectors in hazardous zones
- Use alternative raw materials to minimise exposure to fine particles



Fine particles of dust & silica are emitted into the circulating airstream and constant non-protected exposure results in accumulation within the lungs.

National legislation and regulation advocates occupational safety within a workplace and ensures employees and employers participate collectively to adopt a comprehensive occupational health and safety program.

The Australian Safety and Compensation Committee is responsible for adjustments to the occupational health and safety criterion at a national level .

The respirable quartz criterion has been revised on numerous occasions to reflect medical or scientific present findings.

Industry and employers subject to the contaminant exposure are required to comply with an 8 hour Time Weighted Average of 0.1mg/m³.

Occupational site sampling quantifies quartz exposure levels by gravimetrically capturing the airborne particles over minimum 4-hour

period; to assess the amounts inhaled by a member of staff throughout the work shift.

To maintain an accurate assessment of operators exposure to their breathing zone, the atmospheric sampling method and equipment is controlled by the Australian Standard AS2985-2004: *Workplace atmosphere – Method for sampling and gravimetric determination of respirable dust.*

The respirable dust is particles with a diameter range of 0 to 2.5 micrometers, which accounts for 97% to 100% of respirable matter captured by the sampling method ⁽³⁾.

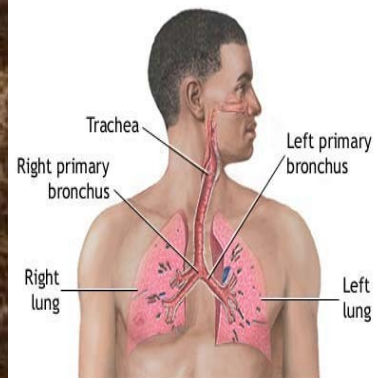
A respiratory protection device is assigned a classification level, whereby will depending protection needed, rates the efficiency of the device to absorb respirable dust and quartz. A site may require the highest level of protection due to large dust contributions during production and therefore might apply a class 3 - filtering self rescue mask, which achieves only 0.01% of dust penetration through the device.



Dust can be disturbed by mobile equipment.

Industries that should have regular dust monitoring are:

- Quarries & Mining,
- Agriculture,
- Building & Construction,
- Glass & building product manufacturers,
- Foundry work



Large dust particles are ingested into the gut, whereas fine dust lodges in the lungs causing wheezing like asthma.

Chemicals in Hospitals

Glutaraldehyde is a common cold sterilising agent used for medical equipment and familiar to those working in the health and dental industry.

The liquid is colourless and pungent to nose, throat and eyes when in an open area.

Exposure Effects

Short Term - Acute reactions can irritate eyes/nose & respiratory pathways, burns to dermal skin layer, and breathing in may result in coughing/wheezing episodes, nausea, nosebleeds and headaches

Long Term - It is a chemical sensitizer meaning it causes reactions from constant contact. Cause - asthma attacks, tightness in chest, chest & skin allergies, eczema, skin itching or rashes.

Solutions

- ⇒ Ventilation systems to dilute and capture fumes
- ⇒ Air tight storage to stop fumes leaking or escaping from container

⇒ Personal protection equipment to reduce exposure ie splash eyewear protection, protective clothing and mandatory house-keeping practices



Indoor Air Quality in OFFICES

Pollutants entering the indoor area can be classified into chemical emissions, dust, pollen, biological spores (mould/bacteria).

Buildings poor IAQ is due to tightly sealed buildings, not allowing indoor air to escape or outdoor air to enter.

The symptoms of this syndrome can include headaches, dizziness, and sinus congestion, itchy or watery eyes, scratchy throats and lack of concentration.

Solutions

- ⇒ Control or repair water leaks, clear damaged furnishings or carpet immediately
- ⇒ Minimise dust by through cleaning of indoor area ie furnishings, surfaces and air conditioner filters
- ⇒ Upgrade ventilation with pollutant removing function

⇒ Reduce use of chemicals indoors ie aerosols, paints, solvents, air fresheners, cleaners and fume producing consumables



Noise Exposure

Constant exposure to manufacturing noise can lead to industrial deafness.

Site noise levels need to be compared to 2 criteria.

- 8 hour shift must be below 85 db (A); and,
- Loud knocks/bangs must be limited to 140 db(C).

If levels are over the criteria, workers require hearing protection and it must suit the site noise levels.

Over protection may cause reduced communication or workers unable to hear safety or emergency alarms.

