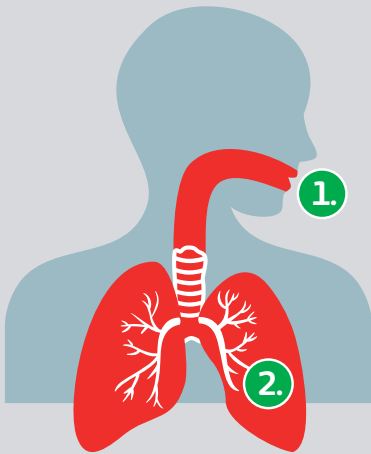


Raising awareness to protect lives: **Dust can kill**

July 2016

HSE research estimates that, each year, 500 people die from silica-related diseases, while 4,000 die of COPD linked to work. Construction workers are most at risk due to the dust that they breathe.



1. Inhalable dust

breathed in the nose or mouth; usually cleared via mucus.

2. Respirable dust

small enough to get deep into the lungs, in the alveoli.

The health risks of construction dust

Many construction jobs create large amounts of dust, which scientific studies have linked to these significant risks:

- **Death due to heart or lung disease, including cancer, silicosis, asthma and chronic obstructive pulmonary disorder (COPD).**
- **Non-fatal heart attacks**
- **Irregular heartbeat**
- **Aggravated asthma**
- **Decreased lung function**
- **Increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.**
- **Nasal cancer**
- **Dermatoses**
- **Asbestosis**
- **Systemic poisoning**

Health effects resulting from exposure to dust may become obvious only after long-term exposure.

Inhalable vs respirable dust

Dust particles come in a range of sizes. The smaller dust particles have the biggest impact on workers' health.

- **Inhalable dust is deposited in the upper respiratory tract and is usually cleared by mucus. It is still hazardous to workers' health. This type of dust is produced during typical demolition work, woodwork, chasing, cutting etc.**
- **Respirable dust is so fine it can get deep into the lungs and cause serious health problems. To compare: the largest of these fine particles are 30 times smaller than the width of a human hair. This dust is produced when working with materials that contain quartz, cobalt, or crystalline silica (eg concrete, mortar, sandstone), and by grinding masonry drill bits.**

Types of dust on construction sites

1. Silica dust (or respirable crystalline silica) - from silica-containing materials like granite, concrete, mortar and sandstone.

2. Wood dust - from softwood, hardwood and wood-based products like MDF and plywood.

3. Fibrous dust - from asbestos and other such materials.

3. Lower-toxicity dusts - from materials containing very little or no silica, such as gypsum (eg in plasterboard), limestone, marble and dolomite.

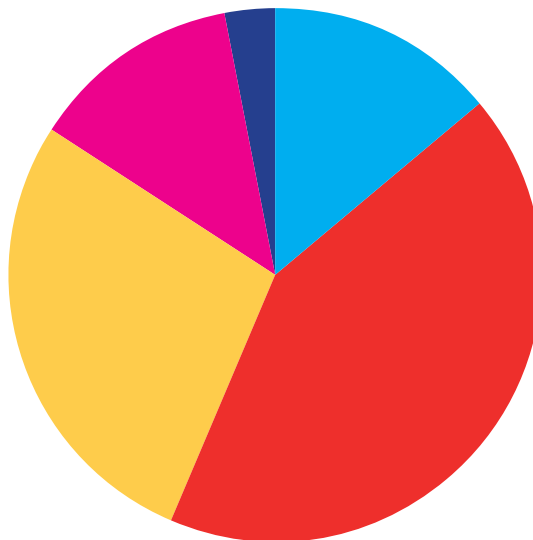
The Control of Substances Hazardous to Health (COSHH) regulations sets a limit on the amount of dust that workers can safely breathe (called a Workplace Exposure Limit or WEL). When compared to a penny it is tiny – like a small pinch of salt.



The amount of **silica dust** considered safe to absorb in a day.

An underestimated danger

According to the Construction Dust Industry Survey of 618 people, over 40% of those who responded were aware of the health risks of construction dust, but didn't know the true consequences. Over 14% weren't aware that it was a health risk; it was simply considered a nuisance.



- **14.1%** Not aware it is a health problem at all, just a nuisance.
- **42.2%** Appreciate it is a health issue, but no idea of the significance.
- **27.8%** Have heard of silica, etc, and have some awareness of the risks.
- **12.8%** Appreciate it is an issue and know the general risks.
- **2.8%** Fully aware of the risks.
- **0%** Don't know.

Typical tasks that require dust control measures

Cutting of concrete, stone and tiles / cutting and sanding wood / sanding taped and covered plasterboard joints / any abrasive blasting rock drilling / jack hammering / stone cutting, sawing, chipping, grinding, polishing / demolition work / use of abrasives / machining operations / dry sweeping.

Companies and their staff reap the benefits of adopting best practice, through improved productivity and morale, and enhanced reputation. RVT Group works closely with the industry to implement best practice simply and seamlessly.

RVT's free site assessments quickly identify what control measures are needed for every individual situation, and tailored solutions are recommended.

40%
of construction sites failed HSE safety checks*

* 22 September - 17 October 2014

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HSE targets poor working conditions

Dust, respiratory risks and ill-health in general are priority areas for the HSE in its dealings with the industry. In late 2014, HSE construction inspectors carried out their ninth inspection initiative, with unannounced visits to sites where refurbishment projects or repair works were underway. Unacceptable conditions and dangerous practices were found at nearly half of the 1,748 repair and refurbishment sites, with 1 in 5 sites so poor, formal enforcement action was required.

How to control construction dust

It is important that the correct control for each situation is used in order for it to be most effective.

- A dust monitoring program should assess the concentration of airborne dust for all activities.
- Stop or reduce the dust before work starts by using different materials, less powerful tools or other work methods.
- Ensure proper ventilation of workplaces.
- Use vacuum extraction/filtration systems to capture airborne dust at source, eg: on-tool dust extractors on cut-off saws, routers and chasers.
- Implement wet dust-suppression systems to immobilise the dust during demolition works.
- When working in a large internal area, set up a containment tent with a self-contained extraction/filtration unit.
- Use respiratory protective equipment in addition to these controls for high-risk tasks.

