



DANGER TO PUBLIC AND WORKER SAFETY – AIRBORNE SILICA DUST

WLD.032

A Potentially Dangerous Level of Dust Was Being Kicked up during site works

A considerable quantity of Silica Dust was being agitated into the air during site operations

Population at Risk

Members of the travelling public, site operatives and third-party trades.

Hazardous Activity and Residual Risk Description

- A large volume of Silica dust was observed being created and becoming airborne during site works. This posed a significant health danger to site staff and members of the travelling public, due to the potential for the inhalation of silica dust and the consequential long-term threat of lung disease.

Potential consequences of this event

- HSE have reported that 12,000 people die annually from respiratory conditions and lung diseases including Occupational Asthma, Lung Cancer and Silicosis from past exposure to airborne dust.

Safety Hub [Alert Database](#)

- Category SSOW Sub-category 1 Hazardous Substances with Sub-category 2 Dust/Fumes has one incident with one injury.



Photo of Silica dust being kicked up by workers on site

Potential Mitigation Measures



Design

- Designers should try to specify products in accordance with Design for Manufacturer Assembly (DfMA) techniques which can be manufactured off-site to reduce the risk of dust production on-site.
- Create designs that avoid or minimise the need for the cutting of silica-based products through standardising design sizes and shapes based on product specifications.

Construction

- Contractors should work with the design team to minimise the number of cutting operations required.
- Any residual cutting or cleaning operations should be carefully risk assessed and minimised with safe systems of work developed.
- Where cutting cannot be avoided, the correct tools and PPE should be provided, and water suppression used wherever possible.
- Review the supply chain to ensure the sub-contractors have the correct skills, knowledge and experience and know how to raise wellbeing, health and safety concerns.

Maintenance / Operations

- Maintenance operations with the potential to create dust should be carefully risk assessed and suitable safe systems of work developed to minimise the potential to create airborne dust.

Further Guidance and Reading

- [RtB 26 – Safety by Design](#)
- [RtB 33 - Occupational Cancers](#)
- [Construction Dust - HSE Guidance](#)



Please send ideas for Whole Life Design safety shares to wellbeing@nationalhighways.co.uk

LEAN

Alternative Materials

Alternative Plant

Reduced Labour

Reduced Activity Duration

Reduced Reportable Accidents