

With Every Breath We Make

Clean Air Workplace series:

Bitesize 3



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**START WITH
CLEAN AIR**





Bitesize 3: Air pollution in the workplace - regulation and enforcement

This Bitesize brief explains the current UK targets and regulations, alongside World Health Organisation (WHO) guidelines (accurate as of October 2021), to address air pollution including in workplaces. It also covers the enforcement regimes in place to protect worker health. It is the third of four within the Clean Air Workplaces Bitesize series, which supplements the White Paper, *With Every Breath We Make: Ensuring Healthy Air for Manufacturing Workers*ⁱ.

The case for strengthening workplace air pollution standards in the UK is clear. As well as causing serious illness to workersⁱ and the impact this has on operations, workplace air pollution can also directly increase the costs of production, owing to equipment failures, increased time dedicated to cleaning, and products that do not meet quality controls and less efficient heating systemsⁱⁱ.

Despite the regulation of many airborne pollutants by the Health and Safety Executive (HSE), there is evidence that some 'permitted' levels of pollution cause serious health problems, pointing towards the need for lower exposure limitsⁱⁱⁱ. This includes particulate matter (PM) of all sizes and nitrogen dioxide (NO₂).

Regulations

The HSE and local authorities have legal duties to enforce air quality regulations, to ensure that the health and safety of workers is protected^{iv}. The HSE has set restrictions on the levels of 500 different pollutants in workplaces and thousands more polluting substances under Control of Substances Harmful to Health (COSHH) regulations^v.

However, how sufficient are the regulations, and how successful is the enforcement of and adherence to those restrictions? Similarly, what are companies doing to reduce air pollution beyond meeting the HSE maximum exposure limits?

The Trade Union Congress (TUC) make clear that the current COSHH regulations and Workplace Emission Limits (WELs) are not safe levels for worker exposure^{vi}.





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The table below shows that, in the UK, workplace COSHH regulations and exposure limits are well above what the WHO considers to be acceptable levels, potentially putting workers' health at greater risk:

	Health & Safety Standards		
	WHO Guide-lines ^{vii}	UK Outdoor Objectives ^{vii}	UK COSHH Regulations ^{ix}
Airborne Pollutants			
PM ₁₀ (respirable dust)*	45 µgm ⁻³ 24hr mean	50 µgm ⁻³ 24hr mean	4,000 µgm ⁻³ 8hr mean
PM _{2.5} (fine particulates)	15 µgm ⁻³ 24hr mean	25 µgm ⁻³ 24hr mean	No specific regulations
NO ₂ (nitrogen dioxide)	10 µgm ⁻³ annual mean	40 µgm ⁻³ annual mean	960 µgm ⁻³ 8hr mean

The table is accurate at time of publication (October 2021).

*The definitions of particulate size in terms of respirable and inhalable dust overlap with the health standards determined by the WHO, ambient external and COSHH regulations. For clarity, COSHH regulations determine inhalable dust as anything between 100µgm and 5µgm in diameter so includes PM₁₀. Respirable dust is defined at 5µgm in diameter and below and so includes PM_{2.5}.

A more detailed review of other pollutants, including a summary for SO₂ (sulphur dioxide) and VOCs (volatile organic compounds) is included in the White Paper, With Every Breath We Make: Ensuring Healthy Air for Manufacturing Workers.

Dust

In 2011, the HSE's Scientific Advisory Committee on Toxic Substances (ACTS) stated that current exposure levels for dust are not safe^x. Similarly, the Institute of Occupational Medicine has suggested that safe limits are put in place and employers should aim to keep exposure to respirable dust below 1,000µgm⁻³ and inhalable dust below 5,000µgm⁻³^{xii}. These levels are still significantly above WHO standards^{xii}.

Enforcement

Failure to meet the established COSHH regulations and WELs is illegal and may lead to fines and potential prosecution of employers. The HSE and local authorities who oversee the enforcement of COSHH regulations are lacking resources to ensure compliance. A report by the All-Party Parliamentary Group on Occupational Safety and Health (2018)^{xiii} revealed that the number of proactive health and safety inspections (for any reason) by local authorities fell by 97% between 2010 and 2016.

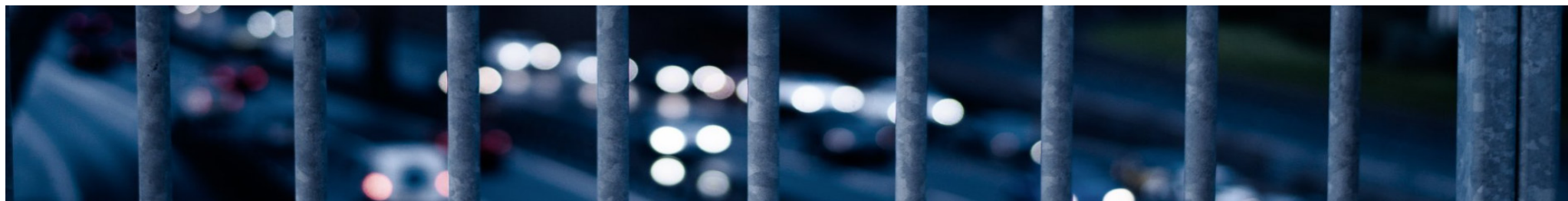
The HSE's own enforcement statistics report 'Enforcement Statistics in Great Britain' (2019) illustrated that the total number of prosecutions brought forward for health and safety offences has continually reduced since 2015/16^{xiv}. While we are aware of the funding cuts experienced by the HSE and local authorities in this area over recent years, this does not detract from the fact that this is a dereliction of duty by those statutory bodies to protect workers' health.

It's time to build back better and fairer.



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Endnotes

i Cherrie, J.W., Brosseau, L.M., Hay, A. and Donaldson, K., 2013. Low-toxicity dusts: current exposure guidelines are not sufficiently protective. *Annals of occupational hygiene*, 57(6), pp.685-691. <https://www.research.ed.ac.uk/en/publications/low-toxicity-dusts-current-exposure-guidelines-are-not-sufficient>

ii Breathing life into the UK economy - Quantifying the economic benefits of cleaner air, September 2020: CBI Economics. <https://www.cbi.org.uk/media/5539/2020-09-cbi-economics-caf-report.pdf>

iii Health and Safety Executive, Dust FAQs. <https://www.hse.gov.uk/dust/faqs.htm> [Accessed 25.06.21].

iv The Control of Substances Hazardous to Health Regulations 2002 (as amended). <https://www.hse.gov.uk/pubns/priced/l5.pdf>

v Working with substances hazardous to health: A brief guide to COSHH <https://www.hse.gov.uk/pubns/indg136.htm>

vi Trade Union Congress, Sept 2011. Position paper by TUC members on ACTS on dust standards. <https://www.tuc.org.uk/sites/default/files/GC%20report%20complete%20all%20together.pdf>

vii WHO Air Quality Guidelines (AQG) <https://apps.who.int/iris/handle/10665/345329>

viii National Clean Air Strategy (2019) <https://www.gov.uk/government/publications/clean-air-strategy-2019>

ix Health and Safety Executive, Dust FAQs. <https://www.hse.gov.uk/dust/faqs.htm>

x Trade Union Congress, Sept 2011. Position paper by TUC members on ACTS on dust standards. <https://www.tuc.org.uk/sites/default/files/GC%20report%20complete%20all%20together.pdf>

xi Institute of Occupational Medicine, May 2011. The IOM's position on occupational exposure limits for dust. <https://www.iom-world.org/media/1656/position-paper.pdf>

xii WHO Ambient (outdoor) air pollution. [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

xiii All-Party Parliamentary Group on Occupational Safety and Health, 2018. Local authorities and health and safety. https://www.tuc.org.uk/sites/default/files/APPG_Local_Authorities_Report_2018_AW.pdf

xiv Unchecked.UK, The UK's Enforcement Gap. <https://www.unchecked.uk/wp-content/uploads/2019/09/The-UKs-Enforcement-Gap-1.pdf>