

# Information for Employers and Duty Holders

## Rubber Fume and Rubber Process Dust

Oct 2024

### Sources of Rubber Fume and Rubber Process Dust

Rubber fume is a complex mixture of airborne chemicals and particles created when rubber is heated and can be produced during mixing, milling, and blending natural rubber or synthetic materials (like elastomers).

It also includes fumes from these materials when combined with other chemicals (such as in manufacturing steps that turn these blends into final products).

Rubber fume can also be present in inspection areas if it continues to be evolved by the product.

Rubber process dust is generated during rubber manufacturing when ingredients are handled, measured, added to, or mixed with uncured natural or synthetic rubber materials. It does not include dust created from the abrasion of fully cured rubber.

The exact makeup of rubber process dust varies depending on the formulation and additives used in production.

### Routes of Exposure and Health Effects

**Inhalation:** Breathing in airborne particles or fumes is the primary route of exposure. Fine particles and gaseous components can enter the respiratory system, posing risks for respiratory irritation and other health effects.

**Skin Contact:** Direct contact with rubber dust, fume deposits, or contaminated surfaces can lead to skin irritation or sensitisation, potentially causing allergic reactions, rashes, or dermatitis, especially with repeated exposure.

**Ingestion:** Although less common, ingestion can occur if workers inadvertently transfer rubber dust from their hands to their mouths while eating, drinking, or smoking, particularly in areas where dust or fume is present.

Long term exposure to rubber fume and process dust can cause respiratory issues, skin conditions, and in some cases, has been linked to an increased risk of bladder and lung cancer.

### Control and Management

The HSE has set Workplace Exposure Limits (WEL) for both rubber fume and rubber process dust due to the health risks associated with exposure.

The current WEL is 6 mg/m<sup>3</sup> (8-hour time weighted average (TWA)) for rubber process dust and 0.6 mg/m<sup>3</sup> (8-hour TWA) for rubber fume. The rubber fume limit relates to the cyclohexane soluble material (see MDHS 47/3).

All duty holders should ensure that exposure to rubber fume and rubber process dust is reduced to as low as is reasonably practicable, considering all routes of exposure.

In terms of airborne concentrations, exposure should be reduced as far as reasonably practicable below the WELs.

As per COSHH Regulations 2002 (Regulation 6), a suitable and sufficient risk assessment should be conducted.

**An occupational hygienist can help to determine if you are compliant and protecting your staff adequately**