

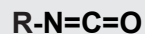
Information for Employers and Duty Holders

Isocyanates

Nov 2024

Sources of Isocyanates

Isocyanates are chemical compounds which contain an isocyanate group.



These compounds serve as the raw materials for all polyurethane products; they react with alcohols to form polymers. Polymers are essential in the creation of products like polyurethane foams, elastomers, adhesives, and various paints.

Workplace exposure to isocyanates can occur where tasks such as painting, varnishing, foam-blowing, the manufacturing of insulation materials (e.g. car seats, furniture, mattresses), and adhesive application are performed. Vehicle spray painters have also been identified as a group at particular risk by the HSE.

Health Effects of Isocyanates

Health effects associated with isocyanate exposure include occupational asthma, lung problems, and irritation of the eyes, nose, throat, and skin. Routes of exposure include inhalation and skin contact.

Symptoms of exposure can include chest tightness, difficulty breathing, and irritation of mucous membranes and skin.

Isocyanates are also classified as potential human carcinogens and are one of the leading causes of occupational asthma in the UK.

Not everyone who is exposed to isocyanates will develop occupational asthma; however, once the lungs become hypersensitive, even low-level exposure may trigger an attack.

Control and Management

The HSE has set Workplace Exposure Limits (WEL) for isocyanates due to the health risks associated with exposure.

The current WEL is 0.02 mg/m³ (8-hour Time Weighted Average) and 0.07 mg/m³ (15-minute reference period).

However, it is recommended that exposure to isocyanates is controlled to as low as is reasonably practicable.

Occupational hygiene assessments, including air monitoring, can ascertain the level of control. Biological monitoring should also be considered.

As per the COSHH Regulations 2002 (Reg 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