

# Isocyanate Testing



ChemCentre offers testing for isocyanates, which are widely used in industry to produce polyurethane of various forms including coatings and foams. Our experts provide a sampling regime customised to protect your employees and brand.

## What's the issue?

Isocyanates are a potential occupational health concern, and exposure can lead to sensitisation, contact dermatitis and occupational asthma. Methylenebis (phenylisocyanate) (MDI) and toluene diisocyanate (TDI) are classified according to the GHS (Globally Harmonised System) in Carcinogenicity Category 2 — suspected cancer-causing agents.

Production of isocyanates is continuing to grow (expected 18 million tonnes in 2016) with the top three consumers being the transportation, furniture and construction industries.

## What does ChemCentre provide?

ChemCentre's Occupational Hygiene scientists employ the SKC ISO-CHEK sampling technique to test for isocyanates. This technique consists of dual filters, with the front filter collecting the isocyanate in aerosol form and the back coated filter collecting the vapour form.

After sampling, the top filter is removed and placed in a derivatising solution; the remaining back filter is left intact. The front and back of the filters are then analysed for derivatised isocyanates by Ultra Performance Liquid Chromatography (UPLC).

ChemCentre can now detect around 10 times lower than the short-term exposure limit (STEL) of certain isocyanates — see Table below left.

## ChemCentre limits of detection compared to STEL

Compound	Detection Limit (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
2,4-Toluene Diisocyanate (TDI)	0.005	0.07
2,6-Toluene Diisocyanate (TDI)	0.005	0.07
Hexamethylene Diisocyanate (HDI)	0.005	0.07
Methylene bis-cyclohexylisocyanate (HMDI)	0.005	0.07
Isophorone Diisocyanate (IPDI)	0.005	0.07
Methylenebis(phenyl isocyanate) (MDI)	0.005	0.07

## How can we help?

Our expert advice sets us apart from others. To find out more on the isocyanate testing services, or any of the occupational hygiene services, contact [organic\\_enquiries@chemcentre.wa.gov.au](mailto:organic_enquiries@chemcentre.wa.gov.au)

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ChemCentre is an accredited organisation:



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