





# DIISOCYANATES | WHAT YOU NEED TO KNOW


## 1 Possible sources of exposure


 Occupational exposure: (vapors and aerosol)


 Manufacture and use of rigid and flexible polyurethanes

 Vehicle manufacturing and repair


 Construction sector including insulation foams and coatings, adhesives and sealants and elastomers


 Industrial paints, glues, varnishes, and resins


 Wood product sectors

 Engineering plastics


 Furniture

 Clothes including shoes, footwear and sports

 Craft materials


 Consumer products


## 2 How can diisocyanates enter your body?

 Via dermal absorption


 Via inhalation


## 3 How might diisocyanates affect your health?


 Eye damage or irritation in contact with eye


 Respiratory tract irritation, respiratory sensitization<sup>1</sup>, resulting in occupational asthma or rhinitis

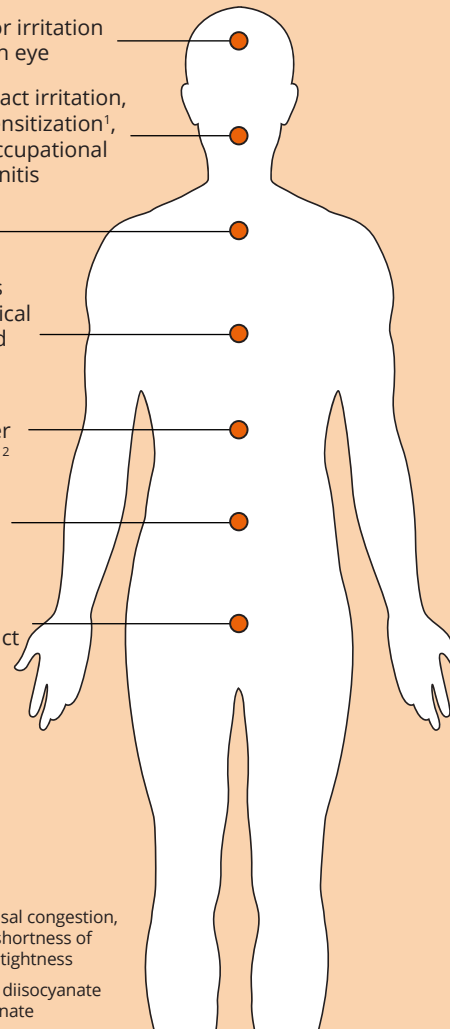
 Asthma

 Lung diseases such as chemical bronchitis and pneumonitis


 Suspected of causing cancer (MDI and TDI)<sup>2</sup>

 Skin irritation (dermatitis)

 Dermal sensitization (allergic contact dermatitis)



## Where can they possibly be found?



 Diisocyanates are widely used in industry in paints, polyurethane foams, plastics, and adhesives, and so they might be found in the following products: polyurethanes foams (flexible and rigid foam), assembly foams (e.g. insulation panels), foundry cores (casting), coating materials (paints, lacquers, varnishes), adhesives and sealants, glues, elastomers, pre-polymers in chemical synthesis, engineering plastics and polyurethane fibres /composites.



<sup>1</sup> Symptoms may include: nasal congestion, dry or sore throat, cough, shortness of breath, wheezing, or chest tightness



<sup>2</sup> MDI is methylene diphenyl diisocyanate and TDI is toluene diisocyanate



## 4 How can you reduce your exposure to diisocyanates?

If you are a consumer:



  Avoid getting exposed to diisocyanates, if you perform do-it-yourself activities or if you are a by-stander in construction involving use of polyurethane foams



  Read the labels of the products you buy and follow the instructions for use and disposal

  Be aware that some products, such as glues, may contain uncured diisocyanates



  Ensure correct installation of spray polyurethane foam at home



If you are an employer:

  Make sure that you fully comply with your legal responsibilities for the health and safety of your workers

  Early recognition of sensitization and prompt and strict elimination of exposures is essential to **reduce** the risk of long-term or permanent respiratory problems for workers who have become sensitized


If you are a worker:

  Know your rights and responsibilities. Use correctly all necessary protective equipment, gear and any other control measures and report any defects promptly to your employer

  Contact your occupational health services if you have dermal or respiratory symptoms related to your work

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The EU has taken action to reduce people's exposure to diisocyanates. At European level, diisocyanates are regulated/restricted under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). In particular, the amount of MDI in products intended for the general public is restricted unless the packaging contains protective gloves and is marked properly.

 For further information on diisocyanates, please visit the **'HBM4EU Factsheet'** section.