Skin exposure to 1,6-hexamethylene diisocyanate monomer and its oligomers were assessed in 25 automobile-repair workers using patch, patch circle, and tape-strip skin-sampling methods. The efficacy of nitrile gloves and other work-related factors were evaluated for exposure reduction. Skin exposure to HDI monomer, biuret, and uretidone were low (>47% below the limit of detection; LOD) while isocyanurate was measured above LOD in ≈90% of the tasks. Isocyanurate levels were highest in patches on the lower arms but the use of arm protection significantly reduced exposure (p = 0.009). The use of nitrile gloves reduced isocyanurate exposure but not significantly; patch circle and tape-strip concentrations before intervention 0.05 ng/cm² and 0.04 ng/cm², respectively, and after intervention 0.01 ng/cm² for both. However, the efficacy of nitrile gloves cannot be reliably determined because they were worn during 74% of the tasks. Further study is needed to determine the efficacy of thick nitrile gloves.

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