

ABSTRACT

Title: A Study on Crystalline Silica in Construction Sites

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Year: December 2020

Abstract:

Our aim was to determine the quantity of the percentage crystalline silica (quartz) in bulk sample. Three common construction activities were determined exposure level for quartz (RCS-quartz) and respirable dust, utilizing personal air sampling from breathing zone. The samples were collected throughout the 8-h working day, 36 personal activity period samples for mixing, cutting and plastering as well as compliance status among workers in construction sites. Samples were collected from the Kuala Lumpur and Selangor area. Analytical measurements employed NIOSH Method 0600 for gravimetric analysis of respirable dust and NIOSH Method 7500 for quartz analysis in respirables dust samples. The results indicated around 39.5 % of workers in mixing activity were exposed to RCS-quartz level above the permissible exposure limit (PEL) based on Malaysian's Occupational Safety and Health Regulations 2000. Activities with the highest exposure was mixing, followed by plastering and lowest was cutting activity.