

Evaluation of Chemical Risk in Lorry Coach Manufacturing Industries

Aiman Hakim Amirnuddin^a, Nor Suhaila Mohamad Hanapi^{a,b*}

Structured Abstract

Background: A chemical could be considered dangerous to health if it had the potential to be hazardous to humans directly or indirectly because of its physical, chemical, or toxicological properties. As stated in the Occupational Safety and Health USECHH Regulation 2000, it was compulsory for employers to carry out or hire competent personnel to do Chemical Health Risk Assessments (CHRAs). These CHRAs would have provided essential information about the risks present to employees' health from handling, storing, or transporting chemicals containing hazardous substances. Consequently, employees were exposed to toxic chemicals through inhalation, dermal absorption, or contact, which were detrimental to their health. In some cases, poor hygiene practices were reported, which could have become a major problem during hazardous chemical handling.

Methods Conducting a Chemical Health Risk Assessment (CHRA) involved ten steps with three primary phases: data collection, site evaluation, and risk assessment. In the early phases, all required information was collected from various sources to ensure a comprehensive overview of the workplace situation. Once data collection was completed, the next step was to conduct an on-site evaluation. Some objectives of this evaluation were to observe the actual work process, interview operators/supervisors, and generate critical thinking for making informed decisions. After completing the first two steps, the final steps involved risk assessment. This was described as calculating the risk matrix and the final results acted as indicators for judgment regarding the evaluation. Depending on the outcome, either AP1 (mandatory improvement) or AP2 and AP3 (recommended improvement) would be suggested.

Results: The results shows that the first work unit: panel work operator consist of twelve chemical hazardous to health (CHTH) meanwhile the second work: flooring and mixing operator unit have two CHTH same goes to the third work unit: door work operator.

Conclusion: In conclusion, the findings of this study indicated that there are numbers of CHTH used in the work process for each work unit. Most of the workers are fully exposed and unaware about their unsafe condition where it can cause adverse health effect if not properly controlled. Therefore, the existing control measure is insufficient to protect workers from the hazard. It is recommended to improve their control measure in all aspect including personal protective equipment, working procedure and working environment.

Keywords: Chemical Hazardous to Health (CHTH), chemical exposure, Chemical Health Risk Assessments (CHRA)

*Correspondence: norsuhaila979@uitm.edu.my

^a School of Chemistry & Environment, Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Malaysia

^b Industrial Waste Conversion Technology Research Group, Universiti Teknologi MARA, Shah Alam, Malaysia