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| بسمه تعالیدانشکده بهداشت – گروه مهندسی بهداشت محیط**فرم چکیده سخنرانی ژورنال کلاب دانشجویان دکترا ورودی**96**نام و نام خانوادگی دانشجو : مهدی فضل زاده**  **شماره دانشجویی: 9611150003 C:\Users\Mahdi\Desktop\گواهی ها\WhatsApp Image 2020-12-14 at 12.18.07 (1).jpeg****استاد راهنمای آموزشی: دکتر کاظم ندافی****تاریخ :10/12/1399 ساعت: 15:00** |
| **عنوان مقاله:****Probabilistic risk assessment of occupational exposure to volatile organic compounds in the rendering plant of a poultry slaughterhouse** |
| **چکیده :** In this study, occupational exposure to volatile organic compounds (VOCs) in the rendering plant of poultry slaughterhouse was determined and subsequently, carcinogen and non-carcinogenic risks were assessed using the US Environmental Protection Agency (USEPA). National Institute for Occupational Safety and Health (NIOSH) methods of 1501 and 1600 were used to measure VOCs in the breathing zone of the workers. Samples were analyzed by GC/MS. Carcinogenic and non-carcinogenic risks and sensitivity analysis were carried out using Monte Carlo simulations technique. The concentration of benzene and CS2 was higher than the occupational exposure limits (OEL). The hazard quotient (HQ) values for all measured compounds was more than 1, which indicating the high potential for non-carcinogenic risks. Furthermore, the calculated Lifetime Cancer Risks (LCR) for carcinogenic compounds revealed that cancer risk due to benzene is higher than the maximum acceptable level provided by USEPA (10−6). Based on the sensitivity analysis, the concentration and exposure frequency are the most important variable influencing both carcinogen and non-carcinogenic risks. Therefore, the concentration levels of the VOCs and exposure frequency should be controlled using engineering control measures. |