Thesis title : A Study of Full and Half Face Mask Fitness Used in Respiratory Protection from Chlorine gas in Metropolitan Water Work

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Date of Graduation : SEPTEMBER 22, 1988

ABSTRACT

Severe accidents always occur from chlorine leakage in the production process of Metropoliptan Water Work (MWA). The results of past accidents caused in injuries and hospital admittance. Inorder to stop these sever incidents, it is necessary to train the MWA personnels who are directly incharge of chlorine leakage to know the technique of stopping chlorine gas as well as to know how to use and operate the personal protective devices in the work place.

This study protocol was designed to test the fitness of full face and half face masks used by 115 personnels of Metropolitan Water work. The Quantitative test which comprised of irritant test and negative test were used for testing on both full and half face mask resperators. The resuets revealed that both of masks had leakage less than 50% significantly (α =0.01) After comparing the quantitative test with qulitative test, using flow of 1PPM. in a designed chamber. The result show that both of the masks could not protect the amount of chlorine gas more than the normal value of smell sensation. (0.02 PPM)

It is quite a good experience in this field of study to know the reality and problems of using respirators in MWA. The MWA personnels mostly had wrong attitude in dealing with chlorine leakage. They tried not to used the masks because they could smell the gas and feel that the masks were not fit enough to prevent the gas. A recommendation from this study is to arrange a safety training for MWA personnels to know the real hazards of chlorine and know how to operate the respirators as well as self maintenance. This training course may lead to a good practice in safety at work.