

## The efficiency of Using the protective clothing from the risks of pollutants on the health of the workers in the chemical plants

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### **Abstract:**

The success of protective clothing depends on the extent to standing against the pollutants during the functional performance. The consumer faces many types of fabrics or clothing with varying degrees of protection, especially protection from chemical pollutants, their degrees of toxicity, and the permeability properties of chemicals through various types of clothing during periods of exposing pollutants. There is Difficulty in the process of choosing between these clothes in order to reach a rational consumer decision. The research concerned studying the classification of protective clothing, the types of fabrics used, the connections used in sewing clothes and their effectiveness of protection against chemical hazards, according to the level of protection and permeability. The researcher designed a database of patterns of protective clothing for protection from chemical pollutants.

The researcher concluded there is a strong relationship between the types of chemical pollutants that are exposed and the types of protective clothing that have to be used, ensuring high protection in the face of the dangers of environmental pollution, whether the pollutants are gaseous, liquid or solid. It should be taking care of the worker's comfort and his ability to move at the work, which required efficiency in performance in an easy way. The researcher concluded that one of the most important factors affecting workers' acceptance of protective clothing is the level of protection. Moreover, the length of exposure to the pollutants, besides the level of clothing protection that is actually applied, the level of readiness for permeability, and the availability of periodic medical supervision, as well as wind speed, degree of permeability, temperature and relative humidity.

It is a requirement needed to the workers who are exposed to chemicals during their work, Establishing to create compatibility between the environmental conditions, the physiological characteristics of the worker, and the type of work, performed and its characteristics. Besides the types of chemical pollutants that are used in their various degrees of toxicity. The use of protective clothing depends on several factors that affect its efficiency For example: (concentration of pollutants - duration of use - rate of pollutant production - type of protection that provided by this type of protective clothing). In order to avoid the damage from being exposed to toxic chemical compounds, it is necessary to provide those who expose to chemicals with the following: (protective clothing - good ventilation - controlling pollution - using the necessary technology in spraying and fire and providing safety - the availability of rapid first aid - good training for workers).

The researcher recommends providing clothes that suit the needs of the workers in the chemical factories in terms of movement and comfort factors, which the worker needs to be compatible with the movement of handling and circulation in the production halls. In addition to measuring the effectiveness of the performance by Comparing the case of wearing of the protective uniform with the case of non-wearing to measure the worker's effectiveness while performing in his duties.

### **Keywords :**

Chemical industries, Protective clothing, Occupational Safety & Health

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