
IS46. TOXICOLOGICAL RISK ASSESSMENT AND PREVENTION - CONTROL MEASURES

Derya KOÇAK

Centre for Labour and Social Security Training and Research, Pursaklar, Ankara, Turkey

The main objectives of toxicology are that revealing toxic effects due to various factors, scientific research to improve information on the toxic effects, perform risk assessment by researching potential toxic effects of chemicals agents in our environment and workplace and controlling of chemicals and other toxins to prevent hazards. Toxicology is divided into sub-fields such as descriptive toxicology, clinical toxicology, environmental toxicology, industrial toxicology, forensic toxicology, analytical toxicology and ecotoxicology.

Occupational toxicology works by integrating with toxicology, occupational health and occupational hygiene. It is concerned with safety measures relating to the workplace and employee safety and standardization of the environment. It also determines the safety limits for poisoning agents in the industrial area.

The hazards of physical, chemical and biological agents cause structural and functional changes in humans and these agents are analyzed qualitatively and quantitatively with occupational toxicology. By use of these analysis results, prevention from hazards of these substances is provided.

A successful risk assessment is required to develop effective prevention and control measures for toxic substances. Toxic substances exposed in industry are classified as toxic gaseous, organic-based toxic substances, volatile toxic substances and heavy metals. Effective prevention and control measures start with combating the risks at source. If this is not possible, toxic substances should be substitute with non-toxic or less toxic substances. Then, engineering control measures should be used like adapting the work to the individual, especially as regards the design of work places, the choice of work equipment and the choice of working and production methods and work at a predetermined work-rate and to reducing their effect on health. These measures are followed by signage/warnings and/or administrative controls and personal protective equipment.

*derya.atmaca@csgb.gov.tr