

# **Risk assessment of chemicals affecting the central nervous system**

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## **Abstract**

Toxic chemicals in the work environment affect the functional status of the nervous system. The functional disorders develop by stages. The chemical burden, resulting from the long-term exposure, displays at every stage both non-specific and relatively specific characteristics of the changes in the functional status of the CNS. The correlations between risk levels and disease stages in the case of neurotoxic substances are presented.

## **Introduction**

One of the most important problems in diagnosing chronic neurological occupational diseases is their early detection and exact diagnoses in the early stage of functional disorders. Only then it is possible to rehabilitate the workers' health and work ability to a great extent.

The nervous system is one of the most sensible systems of the organism that dynamically reacts to various exogenous factors. Toxic chemicals in the work environment affect the functional status of the nervous system. The functional disorders develop by stages. The chemical burden, resulting from the long-term exposure, displays at every stage both non-specific and relatively specific characteristics of the changes in the functional status of the CNS. To diminish the mutagenic, carcinogenic and teratogenic and other harmful effects of chemicals, the health damages have to be diagnosed in the early stage of the illness.

## **Determination of risk level**

The existing risk assessment models based on British Standard 8800. BS 8800 gives the British/European approach to occupational health and safety management systems. The standard is a best-practice guidance document designed to enable the integration of occupational health and safety management within an overall management system. For risk management in the work environment the following activities are recommended: compile the list of hazards; present short information on each hazard; measure the hazard in the work environment; assess the magnitude of the risk; rank the hazards by magnitude (start with the greatest risk), add the cost of reduction methods; complete implementation of the reduction methods; new risk assessment.