

HAZARDS AND HARMS FROM USING CHEMICAL SUBSTANCES

Jasmina Rajić¹, Aleksandar Šotić¹, Barbara Vidaković Ristić¹, Dragana Paunović², Tanja Petrović²

¹Academy of Applied Technical Studies Belgrade, Belgrade, Serbia,

²Faculty of Agriculture, University of Belgrade, Belgrade, Serbia

INTRODUCTION

More than 50 million different chemical substances have been isolated or synthesized. About 70 000 different chemicals are in use across the planet, and the assessment that approx. 200 – 1000 new chemicals are produced annually is of great concern, while the number of mixtures is even greater. Such large production and use of chemical substances have increased the number of diseases, chemicals being their direct or indirect causes. The problem is the price we pay with the health, which we are not sufficiently informed about and are often unaware of.

AIM

The aim of this paper is to raise awareness of how dangerous chemicals can be to humans and the environment if they are not handled with sufficient care and knowledge.

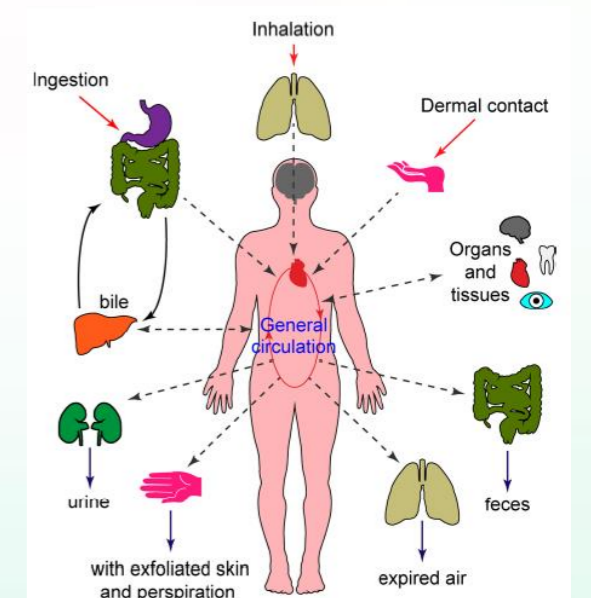
USE OF CHEMICAL SUBSTANCES

Chemicals are widely used in industry and our daily lives. However, uncontrolled use of these chemical compounds may produce harmful effects on human health. Almost any type of workplace uses chemicals, therefore a large range of workplaces are potentially exposed to their impact. The majority of workers are exposed to mixtures rather than to single chemical substances, and thereby the control of mixed exposure is of essential importance for efficient protection program.



HARMFUL EFFECTS OF CHEMICALS

Many useful products are synthesized from chemical substances such as plastics, paints, pharmaceutical products, detergents, etc. Some chemicals may act harmlessly but may have adverse impact on health immediately after the contact or a longer-term exposure. They may enter the body by inhalation and swallowing or by skin contact. For such forms of exposure workers are obliged to wear protective clothing for skin, including gloves and safety glasses. Chemical agents are the most common occupational risk that may lead to an occupational disease. Apart from conditioning instantaneous damages of the organs, chemicals often cause consequences which are invisible immediately.



Routes of exposure, distribution, and clearance of metal compounds in the human organism

SAFETY IN THE USE OF CHEMICALS AT WORK

Of great importance is proper handling of hazardous chemicals, training of employees working with them, proper storage, disposal of hazardous substances in landfills, and their destruction. Employees exposed directly to hazardous substances should have the right to work in the safe and health environment, to be properly informed, trained and protected. Based on the knowledge about dangers and harms that can be produced by chemical substances, training of employees is significant for safe and health work, and their health condition monitoring. Education is part of the training whose aim is to raise awareness of all those using chemical substances.



CONCLUSION

From all stated above it can be concluded that safe and health work when using chemicals plays a significant role in preserving the lives of people and the environment. It is everybody's duty and obligation to implement measures for safe and health work, both of the employer and the employees. Control measures, especially primary prevention measures should be applied for the sake of worker health protection and safety and prevention of undesired effects of chemical exposure.