Hazardous chemicals requiring health monitoring

The information in this guidance is taken from regulation 436 (asbestos) and Schedule 14 to the WHS Regulations.

Hazardous chemicals requiring health monitoring under the WHS Regulations and their type of health monitoring

Hazardous chemical	Type of health monitoring
Acrylonitrile	Demographic, medical and occupational history Records of personal exposure Physical examination
Arsenic (inorganic)	Demographic, medical and occupational history Records of personal exposure Physical examination with emphasis on the peripheral nervous system and skin Urinary inorganic arsenic
Asbestos	Demographic, medical and occupational history Records of personal exposure Physical examination
Benzene	Demographic, medical and occupational history Records of personal exposure Physical examination Baseline blood sample for haematological profile

Hazardous chemical	Type of health monitoring
Cadmium	Demographic, medical and occupational history Records of personal exposure Physical examination with emphasis on the respiratory system Standard respiratory questionnaire to be completed Standard respiratory function tests including, for example, FEV1, FVC and FEV1/FVC Urinary cadmium and β2-microglobulin Health advice including counselling on the effect of smoking on cadmium exposure
Chromium (inorganic)	Demographic, medical and occupational history Physical examination with emphasis on the respiratory system and skin Weekly skin inspection of hands and forearms by a competent person
Creosote	Demographic, medical and occupational history Health advice including recognising photosensitivity and skin changes Physical examination with emphasis on the neurological system and skin, noting abnormal lesions and evidence of skin sensitisation Records of personal exposure including photosensitivity
Isocyanates	Demographic, medical and occupational history Completing a standardised respiratory questionnaire Physical examination of the respiratory system and skin Standardised respiratory function tests, FEV1, FVC and FEV1/FVC

Hazardous chemical	Type of health monitoring
Lead (inorganic)	Demographic, medical and occupational history Physical examination Biological monitoring (blood lead level)
Mercury (inorganic)	Demographic, medical and occupational history Physical examination with emphasis on dermatological, gastrointestinal, neurological and renal systems Urinary inorganic mercury
4,4'-Methylene bis(2-chloroaniline) (MOCA)	Demographic, medical and occupational history Physical examination Urinary total MOCA Dipstick analysis of urine for haematuria Urine cytology
Organophosphate pesticides	Demographic, medical and occupational history including pattern of use Physical examination Baseline estimation of red cell and plasma cholinesterase activity levels by the Ellman or equivalent method Estimating red cell and plasma cholinesterase activity towards the end of the working day on which organophosphate pesticides have been used

Hazardous chemical	Type of health monitoring
Pentachlorophenol (PCP)	Demographic, medical and occupational history Records of personal exposure Physical examination with emphasis on the skin, noting abnormal lesions or effects of irritancy Urinary total pentachlorophenol Dipstick urinalysis for haematuria and proteinuria
Polycyclic aromatic hydrocarbons (PAH)	Demographic, medical and occupational history Physical examination Records of personal exposure including photosensitivity Health advice including recognising photosensitivity and skin changes
Silica, crystalline	Demographic, medical and occupational history Records of personal exposure Standardised respiratory questionnaire to be completed Standardised respiratory function test, for example, FEV1, FVC and FEV1/FVC Chest X-Ray full PA view
Thallium	Demographic, medical and occupational history Physical examination Urinary thallium
Vinyl chloride	Demographic, medical and occupational history Physical examination Records of personal exposure

Examples of chemicals to consider for health monitoring

You may wish to consider the following examples of hazardous chemicals and their testing methods, which are not listed in Schedule 14 to the model WHS Regulations, when implementing a health monitoring program for your workers.

Some hazardous chemicals to consider for health monitoring and their type of health monitoring

Hazardous chemical	Type of health monitoring
1. Antimony	Demographic, medical and occupational history Records of personal exposure Physical examination with emphasis on the respiratory system and skin Urinary antimony level
Arsenic (inorganic)	Extra: Urinary inorganic arsenic by speciation (inorganic arsenic plus methylated metabolites)
Benzene	Extra: Urinary S-phenylmercapturic acid (s-PMA)
Beryllium	Demographic, medical and occupational history Records of personal exposure Physical examination with emphasis on respiratory and dermatological systems Urinary beryllium level
Butanone (methyl ethyl ketone, MEK)	Demographic, medical and occupational history Physical examination with emphasis on the central nervous system and skin Urinary MEK (2-butanone) level

Hazardous chemical	Type of health monitoring
Carbon disulfide	Demographic, medical and occupational history Physical examination with emphasis on the respiratory system and skin Urinary 2-thiothiazolidine-4-carboxylic acid level
Chromium (inorganic)	Extra: Urinary chromium
Cobalt	Demographic, medical and occupational history Physical examination with emphasis on respiratory systems and skin Urinary cobalt level
Creosote	Extra: Urinary 1-hydroxypyrene
Dichloromethane	Collecting demographic, medical and occupational history Physical examination with emphasis on the central nervous system Urinary dichloromethane
Ethyl benzene	Demographic, medical and occupational history Records of personal exposure Physical examination Baseline blood sample for haematological profile Urinary mandelic acid level

Hazardous chemical	Type of health monitoring
Fluorides (including soluble fluorides and aluminium fluoride)	Demographic, medical and occupational history Physical examination with emphasis on the respiratory system Pre and post shift urinary fluoride level
Isocyanates	Extra: Urinary isocyanate metabolites
4-methylpentan-2-one (methyl isobutyl ketone) MIBK	Demographic, medical and occupational history Physical examination with emphasis on the respiratory system and skin Urinary MIBK level
Nickel	Demographic, medical and occupational history Physical examination with emphasis on dermatological and respiratory systems Urinary nickel level
Organophosphate pesticides	Extra: Urinary organophosphate metabolites
Polycyclic aromatic hydrocarbons (PAH)	Extra: Urinary 1-hydroxypyrene
Styrene	Demographic, medical and occupational history Records of personal exposure Physical examination Baseline blood sample for haematological profile Urinary mandelic acid

Hazardous chemical	Type of health monitoring
Tetrachloroethylene (perchloroethylene)	Demographic, medical and occupational history Physical examination with emphasis on the central nervous, respiratory and reproductive systems and skin Tetrachloroethylene blood level before shift
Toluene	Demographic, medical and occupational history Records of personal exposure Physical examination Baseline blood sample for haematological profile Urinary o-cresol
Trichloroethylene	Demographic, medical and occupational history Physical examination with emphasis on the central nervous system Urinary trichloroacetic acid or trichloroethane level
Vinyl chloride	Extra: Annual liver function tests (AST, ALT, GGT, ALP, and bilirubin)
Uranium	Demographic, medical and occupational history Physical examination Post shift urinary uranium level Urinary dipstick analysis for proteinuria Urinary cytology

Hazardous chemical	Type of health monitoring
Xylene	Demographic, medical and occupational history Records of personal exposure Physical examination Baseline blood sample for haematological profile Urinary toluric acid