

Focus on CSIR Research in Water Resources

CSIR Natural Resources
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CSIR'S environmental human health risk assessment

What is environmental health risk assessment?

Environmental health risk assessment deals with risks associated with man-made and natural environmental hazards. Environmental health risk assessment provides a means of estimating the probability of adverse health effects associated with hazards in the environment. It is widely accepted as an important tool in environmental assessment and management as it is now being used for Water Quality Guideline development.

Fields of expertise:

The CSIR Health Risk Assessment team has been involved in numerous risk assessments over the last decade. The team is a multi-disciplinary group of scientists with expertise in fields such as:

- toxicology
- chemistry
- microbiology
- environmental monitoring
- environmental health (air and water)
- environmental science



Benefits of Health Risk Assessment

Environmental health risk assessment has the advantage over epidemiological studies in that health risk assessments are able to predict low health effects, eg. a cancer risk of 1 in a million. Health risk assessments are able to predict both long-term and short-term health outcomes. Due to the predictive nature of health risk assessments they may be completed in shorter time

periods than other environmental health studies. This feature allows for health risk assessments to be successfully implemented in the Environmental Impact Assessment (EIA) process.



Examples:

- Environmental health risk assessments associated with large-scale petro-chemical industries.
- Health risks assessments of metal contamination of fish.
- Specialist study for an Environmental Impact Assessment of a proposed marine outfall.
- Health risk assessment of potential contact with mining pond effluent.
- Development of water quality guidelines using a health risk assessment approach.
- Potential health hazards associated with landfill waste disposal sites.
- Health risk assessment of a proposed fuel pipeline.
- Health risk assessment associated with the fluoridation of drinking water.
- Associated health risks to a community residing close to a pesticide producing plant.
- The health risks associated with disinfection by-products in drinking water.
- Health risks associated with industrial discharges into surface water.
- Environmental health risks associated with pesticide contamination of water and fish due to industrial and agricultural practices.

Contact details:

CSIR Natural Resources and the Environment

Ms Bettina Genthe
Senior researcher

Tel: +27 21 888 2498
Fax: +27 21 888 2683
E-mail: bgenthe@csir.co.za

www.csir.co.za