

Guidelines/Criteria	
Reference:	Adeyemi O, Oloyedeb OB, Oladijib AT. 2010. Biochemical evaluation of leachate-contaminated groundwater on the kidney of Albino rats. Exp Toxicol Pathol 62(5):483-488.
In vivo Study Type Route of Administration Species & age of animals	Drinking water Male and female Albino rats (<i>Rattus norvegicus</i>)
Study Duration	65 days
Type of Mixture Binary >2 components Similar acting or dissimilar What Mode of Action was investigated?	No Yes Dissimilar action assumed Kidney toxicity
Parameters/End points Measured Target organs/Critical effects Pharmacological changes or adverse effects	General toxicity, kidney toxicity (weight, histopathology, kidney enzyme activity (ALP, ACP, AST, ALT), Na ⁺ , K ⁺ , urea, creatinine Adverse and adaptive
Individual Components Characterisation of individual compounds Name, exact chemical name, CAS no. Were dose responses established for individual components? Were no effect levels established? Were doses below the NO(A)ELs investigated?	No Experimental water samples obtained from two different wells located at about 1 and 1.5 km from the landfill, and two boreholes located at about 1 and 1.5 km from the landfill No No Presumably not
Mixtures Investigated Number of dose levels How does the mixture make-up compare to individual components? (e.g. low dose) equivalents used?) No. of technical replicates per exposure condition (<i>in vitro</i>) No. of animals per dose group (<i>in vivo</i>)	6 dose groups: controls, simulated leachate, well (1 km), well (1.5 km), borehole (1 km), borehole (1.5 km) Not applicable Not applicable 10 animals/group
Observations/Findings	Increased Na ⁺ concentration necrosis of muscle fibres and cellular infiltration by macrophages is observed in the leachate simulate. In all groups increased K ⁺ , urea and creatinine concentration and changes in the kidney and serum ALP, ACP, AST and ALT were observed.
Overall opinion (e.g. sufficient numbers of groups investigated, group sizes adequate, observations reproducible, low dose levels used investigated)	The findings in the water groups are considered to be of questionable relevance, as only biochemical parameter are given. No information on kidney weights or any details on macroscopy or histopathology for these groups. More information on the leachate simulation in Perket et al., 1982 and Adeyemi et al., 2007. The samples do most likely not represent environmentally or human-relevant exposure levels.