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Bioassays are studies that determine the biological activity or toxicity of a substance by exposing either laboratory animals or cell lines to the test substance and looking for specific effects.

USEPA (2005) defines the MOA as “a sequence of key events and processes, starting with interaction of an agent with a cell, proceeding through operational and anatomical changes, and resulting in cancer formation.” Note that the MOA evaluation “is a main focus” of USEPA’s (2005) *Guidelines for Carcinogen Risk Assessment* and is used to determine the quantitative approach for dose-response modeling at doses lower than those used in bioassays. USEPA (2005) recommends using a linear low-dose extrapolation when an agent has a direct DNA-reactive MOA or when the MOA is unknown. Conversely, USEPA (2005) recommends using a threshold model for agents that are operative through a non-DNA-reactive MOA.

Note that USEPA (USEPA 2019e) used benchmark dose results to calculate a worker-specific IUR that applies to a work schedule of 8 hours per day, 5 days per week, whereas (USEPA 2013b) derived an IUR for evaluating continuous daily exposures. As a result, the IURs reported in USEPA (USEPA 2019e) and (USEPA 2013b) are not directly comparable. However, the benchmark dose modeling results are directly comparable.

Health Canada (2018) considered routes of exposure to be significant if they accounted for at least 10% of the drinking water consumption level (i.e., 10% of 1.5 L).