

GUIDANCE ON ASSESSMENT AND ACCREDITATION OF TOXICOLOGY METHODS

For toxicology laboratories in Canada, common methods that are accredited are listed in Table A. However, any toxicology test for which there is a recognized standard procedure (e.g., USEPA, Puget Sound Estuary Program protocols) may be included in a CALA site assessment for accreditation, provided the assessment team has a suitable background to ensure a proper assessment of the laboratory's capability to conduct these tests. The following is a list of some common methods assessed and accredited by CALA, including links to the reference methods (where available):

- i) Puget Sound Estuary Program protocols can be found at:

www.psat.wa.gov/Publications/protocols/protocol.html

- ii) Some important USEPA links include:

USEPA. 1995. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to West Coast marine and estuarine organisms. First edition. US Environmental Protection Agency, National Exposure Research Laboratory, Cincinnati, OH. EPA/600/R-95-136. August 1995.

www.epa.gov/nerleerd/westmethman.htm

USEPA. 2002. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. Fifth edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA-821-R-02-012. October 2002.

USEPA. 2002. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms. Fourth edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA-821-R-02-013. October 2002.

USEPA. 2002. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. Third edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA-821-R-02-014. October 2002.

www.epa.gov/OST/WET/

USEPA. 2001. Method for assessing the chronic toxicity of marine and estuarine sediment-associated contaminants with the amphipod *Leptocheirus plumulosus*. First edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA 600/R-01/020. March 2001.

USEPA. 2000. Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with Freshwater invertebrates. Second edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA 600/R-99/064. March 2000.

epa.gov/waterscience/cs/pubs.htm - technical

USEPA. 1994. Methods for assessing the sediment-associated toxicity of contaminants to estuarine and marine amphipods. First edition. US Environmental Protection Agency, Office of Water, Washington, DC. EPA 600/R-94/025. June 1994.

www.epa.gov/waterscience/library/sediment/marinemethod.pdf

Table A. List of Commonly Accredited Toxicology Tests

- Rainbow trout acute lethality - EC 2000
- *Daphnia magna* acute lethality - EC 2000
- Luminescent bacteria - basic test - EC 1992
- Luminescent bacteria - solid-phase test - EC 2002
- Marine amphipod survival - EC 1998
- *Lemna minor* growth inhibition - EC 1999
- *Ceriodaphnia dubia* survival & reproduction inhibition - EC 1997
- Fathead minnow survival & growth inhibition - EC 1997
- *Pseudokirchneriella subcapitata* growth inhibition - EC 1997
- Fertilization assay using echinoids (sea urchins & sand dollars) - EC 1997
- *Collembola* survival and reproduction in soil - EC 2006
- Silverside survival & growth inhibition - U.S. EPA 1994
- Topsmelt survival & growth inhibition - U.S. EPA 1995
- *Hyalella* sediment survival & growth inhibition - EC 1997
- *Chironomus* sediment survival & growth inhibition - EC 1997
- Salmonid embryo - EC 1998
- *Champia* reproduction inhibition - US EPA 1994
- Earthworm acute lethality in soil - EC 2004
- Earthworm avoidance behaviour in soil - EC 2004
- Earthworm reproduction in soil - EC 2004
- Emergence and growth in terrestrial plants - EC 2004