

7052.0110 METHODOLOGIES FOR DEVELOPMENT OF STANDARDS AND CRITERIA, AND BIOACCUMULATION FACTORS.

Subpart 1. **Applicability.** This part identifies the methods that must be used to develop aquatic life and wildlife-based Tier I and Tier II standards and criteria and human health-based chronic standards and criteria. Subparts 3 and 4 also list exceptions to some of the assumptions used in the GLI Guidance methods. These exceptions are based on Minnesota-specific data.

Subp. 2. **Aquatic life.** All Tier I and Tier II aquatic life standards were developed and all criteria must be developed using the methodologies provided by Code of Federal Regulations, title 40, part 132, Appendix A, entitled "Great Lakes Water Quality Initiative Methodologies for Development of Aquatic Life Criteria and Values," as amended through March 12, 1997, which is adopted and incorporated by reference in part 7052.0015, item A.

Subp. 3. **Bioaccumulation factors.** Bioaccumulation factors (BAFs) for calculating human health and wildlife standards were developed and BAFs for calculating criteria must be developed using the methodology provided by Code of Federal Regulations, title 40, part 132, Appendix B, entitled "Great Lakes Water Quality Methodology for Deriving Bioaccumulation Factors," as amended through March 12, 1997, which is adopted and incorporated by reference in part 7052.0015, item B, except that for human health standards and criteria, the baseline BAF is multiplied by the following lipid fractions which apply to fish in both trophic levels 3 (TL₃) and 4 (TL₄), except as noted in item C:

- A. 0.085 for Lake Superior;
- B. 0.06 for Class 2A waters other than Lake Superior; and
- C. 0.015 for TL₄ and 0.020 for TL₃ for Class 2B, 2Bd, 2C, and 2D waters.

Subp. 4. **Human health.**

A. Human health standards listed in part 7052.0100 for benzene, chlordane, chlorobenzene, cyanide (free), DDT, dieldrin, 2,4-dimethylphenol, 2,4-dinitrophenol, hexachlorobenzene, hexachloroethane, lindane, mercury (total), methylene chloride, PCBs, 2,3,7,8-TCDD, toluene, and trichloroethylene were developed using the Tier I methodology provided by Code of Federal Regulations, title 40, part 132, Appendix C, entitled "Great Lakes Water Quality Initiative Methodology for Development of Human Health Criteria and Values," as amended through March 12, 1997, which is adopted and incorporated by reference in part 7052.0015, item C, except that the daily human consumption of fish caught in the Lake Superior Basin is assumed to be 0.030 kg/day (0.0072 kg/day for TL₃ fish plus 0.0228 kg/day for TL₄ fish).

B. Changes to the standards established for the pollutants in item A or additional human health-based chronic standards or site-specific chronic criteria must be based on the algorithms and methods in parts 7050.0217 to 7050.0219, with site-specific consideration as

provided in part 7052.0270, except the bioaccumulation factor methods in part 7052.0110, subpart 3, must be used in place of those listed in part 7050.0219, subpart 6.

C. Concentrations of noncarcinogenic or nonlinear carcinogenic (NLC) chemicals in water or fish tissue from point or nonpoint sources, singly or in mixtures, must be below levels expected to produce known adverse effects. This is accomplished through the application of an additive noncancer health risk index using common health risk index endpoints or health endpoints as described in part 7050.0222, subpart 7, item D. Concentrations of carcinogenic chemicals from point or nonpoint sources, singly or in mixtures, must not exceed an incremental or additional excess risk level of one in 100,000 (10^{-5}) in surface waters. The combined risk from mixtures of linear carcinogens (C) is determined as described in part 7050.0222, subpart 7, item E.

Subp. 5. **Wildlife.** All Tier I wildlife standards were developed and all Tier I criteria must be developed using the methodology provided by Code of Federal Regulations, title 40, part 132, Appendix D, entitled "Great Lakes Water Quality Initiative Methodology for the Development of Wildlife Criteria," as amended through March 12, 1997, which is adopted and incorporated by reference in part 7052.0015, item D.

Statutory Authority: *MS s 115.03; 115.44*

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