Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

CHAPTER 74:51:01

SURFACE WATER QUALITY STANDARDS

74:51:01:01. Definitions. Words and phrases defined in SDCL 34A-2-2, have the same meaning when used in chapters 74:51:01 to 74:51:03, inclusive. Terms and abbreviations which are not specifically defined shall be construed in conformance with the context and in relation to the applicable section of the standards or the statute concerned. In addition, terms used in chapters 74:51:01 to 74:51:03, inclusive, are defined as follows:

(1) "Attainable beneficial uses," those beneficial uses which, at a minimum, can be achieved by the imposition of effluent limits required under §§ 74:51:01:07, 74:51:01:08, and 74:51:01:17 to 74:51:01:21, inclusive, and cost-effective and reasonable best management practices for nonpoint source control;

(2) "Aquatic life," an organism dependent on the water environment to either propagate or survive, or both;

(3) "Aquatic community," an association of interacting populations and stages of aquatic life in a given water body or habitat;

(4) "Best management practices," "BMPs," schedules of activities, prohibitions of practice, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters of the state on a voluntary basis, including treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge, waste disposal, or drainage from raw material storage;

(5) "Bioaccumulative pollutants," those pollutants which are taken up, retained, or accumulated in the bodies of organisms and are transferred by ingestion in increasing concentrations in the predator organisms to the point that one or more organisms in the food chain suffer significant harm;

(6) "Bioassay," a procedure in which the responses of organisms are used to detect or measure the presence or effect of one or more substances, wastes, effluents, or environmental factors, alone or in combination;

(7) "Biochemical oxygen demand," a standardized laboratory test used to determine the relative oxygen requirements of waters and wastewaters;

(8) "Biological integrity," the ability to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region;

(9) "Black Hills Trout Management Area," defined by the South Dakota Department of Game, Fish and Parks as all the waters in the Black Hills within the following boundary: from the South Dakota-Wyoming state line and the Redwater River (inclusive) to U.S. Highway 85, then south on U.S. Highway 85 to I-90, then southeast on I-90 to U.S. Highway 16T (16B in Rapid City), then south on U.S. Highway 16T to S.D. Highway 79, then south on S.D. Highway 79 to Maverick Junction, then west on Highway 18 to Edgemont, then northwest along the Burlington

Northern Railroad to the South Dakota-Wyoming state line, then north along the state line to the point of the beginning;

(10) "Board," Water Management Board;

(11) "°C," degrees centigrade, a measure of temperature;

(12) "Coldwater aquatic life," aquatic life including fish of the family Salmonidae, for example, trout and salmon;

(13) "Coldwater marginal fish life propagation," a beneficial use assigned to surface waters of the state which support aquatic life and are suitable for stocked catchable-size coldwater fish during portions of the year, but which, because of critical natural conditions including low flows, siltation, or warm temperatures, are not suitable for a permanent coldwater fish population. Warmwater fish may also be present;

(14) "Coldwater permanent fish life propagation," a beneficial use assigned to surface waters of the state which are capable of supporting aquatic life and are suitable for supporting a permanent population of coldwater fish from natural reproduction or fingerling stocking. Warmwater fish may also be present;

(15) "Commerce and industry," a beneficial use assigned to surface waters of the state which are suitable for use as cooling water, industrial process water, navigation, and production of hydroelectric power;

(16) "Criterion," a designated concentration of a substance, measure of a physical factor, or narrative statement that, when not exceeded, will protect an organism, a biological community, or a prescribed beneficial use or water quality;

(17) "Designated beneficial uses," those beneficial uses specified in chapters 74:51:02 and 74:51:03 for each water body or segment whether or not they are being attained;

(18) "Domestic water supply," a beneficial use assigned to surface waters of the state which are suitable for human consumption, culinary or food processing purposes, and other household purposes after suitable conventional treatment;

(19) "EPA methods," **Methods for Chemical Analysis of Waters and Wastes**, 1983, Environmental Protection Agency, Analytical Quality Control Laboratory;

(20) "Epilimnion," in a thermally-stratified waterbody, the upper stratum of the water column. This layer is generally above the thermocline and is typically uniformly warm, circulating, and well mixed;

(21) "Existing beneficial uses," those uses actually attained in surface waters of the state on March 27, 1973, whether or not they are so designated;

(22) "°F," degrees Fahrenheit, a measure of temperature;

(23) "Fish and wildlife propagation, recreation, and stock watering," a beneficial use classification assigned to all surface waters of the state that may support recreation in and on the water and fish and aquatic life, when sufficient quantities of water are present for sufficient duration to support those uses; that provide habitat for aquatic and semiaquatic wild animals and fowl; that provide natural food chain maintenance; and that are of suitable quality for watering domestic and wild animals;

(24) "Geometric mean," the nth root of a product of n factors;

(25) "Handbook 69," **Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure**, recommendations of the National Committee on Radiation Protection, **National Bureau of Standards Handbook 69**, (August 1963);

(26) "Hypolimnion," in a thermally-stratified waterbody, the bottom layer of water column. This layer is generally below the thermocline and is typically less well mixed (at times, stagnant), colder than the epilimnion, and often of essentially uniform temperature;

(27) "Immersion recreation," a beneficial use assigned to surface waters of the state which are suitable for uses where the human body may come in direct contact with the water, to the point of complete submersion and where water may be accidentally ingested or where certain sensitive organs such as the eyes, ears, and nose may be exposed to water;

(28) "Impact," a man-induced change in the chemical, physical, or biological quality or condition of surface waters of the state;

(29) "Impairment," a detrimental effect on the aquatic community caused by an impact that prevents attainment of the designated use;

(30) "Irrigation," a beneficial use assigned to surface waters of the state which are suitable for irrigating farm lands, ranch lands, gardens, and recreational areas;

(31) "Lake," a pond, reservoir, or other body of water, created by either natural or artificial means, but not a pond or appurtenance that is used for the treatment and disposal of wastes and that is permitted for such uses;

(32) "Limited-contact recreation," a beneficial use assigned to surface waters of the state which are suitable for boating, fishing, and other water-related recreation other than immersion recreation where a person's water contact would be limited to the extent that infections of eyes, ears, respiratory or digestive systems, or urogenital areas would normally be avoided;

(33) "Metalimnion," in a thermally stratified waterbody, the middle layer of a water column generally encompassing the thermocline, is typically somewhat mixed and influenced by the epilimnion;

(34) "µg/L," micrograms per liter, a measure of concentration;

(35) "mg/L," milligrams per liter, a measure of concentration;

(36) "micromhos/cm," micromhos per centimeter, a measure of electrical conductivity;

(37) "Nonpoint source," a source of pollution that is not defined as a point source;

(38) "Parameter," a chemical, physical, or biological characteristic which affects the use of surface waters of the state;

(39) "pCi/L," picocuries per liter, a measure of radioactive concentration;

(40) "Segment," a continuous stretch of water found between two points in the bed of a stream;

(41) "Sodium adsorption ratio," a calculated value that evaluates the sodium hazard of irrigation water based on the Gapon equation and expressed by the mathematical expression:

$$\text{Sodium Adsorption Ratio} = \frac{Na^{+}}{\sqrt{\frac{Ca^{+2} + Mg^{+2}}{2}}}$$

where Na^{+}, Ca^{+2}, and Mg^{+2} are expressed as milliequivalents per liter;

(42) "Spawning bed," a place where fish spawn;

(43) "Stream," a river, creek, tributary, or other watercourse;

(44) "Surface water of the state," lakes, ponds, streams, rivers, wetlands, and any other body or accumulation of water on the land surface that is considered to be waters of the state, but not waste treatment systems, including treatment ponds, lagoons, leachate collection ponds, or stormwater retention ponds designed to meet the requirements of the CWA;

(45) "Thermocline," in a thermally-stratified waterbody, the depth range characterized by a rapid change in temperature with depth. A thermocline generally separates a well-mixed surface layer (epilimnion) and a more uniform bottom layer (hypolimnion);

(46) "Thirty-day average," the arithmetic mean of a minimum of 3 consecutive grab or composite samples taken on separate weeks in a 30-day period;

(47) "Toxic pollutant," a pollutant or combination of pollutants, including disease-causing agents, which, upon exposure, ingestion, inhalation, or assimilation into an organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available, cause death, disease, behavioral abnormality, cancer, genetic mutation,

physiological malfunctions including reproductive malfunction, or physical deformity, in an organism or its offspring;

(48) "Warmwater aquatic life," aquatic life including the Ictaluridae, Centrarchidae, and Cyprinidae families of fish, for example, catfish, sunfish, and minnows, respectively;

(49) "Warmwater marginal fish life propagation," a beneficial use assigned to surface waters of the state which will support aquatic life and more tolerant species of warmwater fish naturally or by frequent stocking and intensive management but which suffer frequent fish kills because of critical natural conditions;

(50) "Warmwater permanent fish life propagation," a beneficial use assigned to surface waters of the state which support aquatic life and are suitable for the permanent propagation or maintenance, or both, of warmwater fish. Stocked coldwater fish may also be present;

(51) "Warmwater semipermanent fish life propagation waters," a beneficial use assigned to surface waters of the state which support aquatic life and are suitable for the propagation or maintenance, or both, of warmwater fish but which may suffer occasional fish kills because of critical natural conditions;

(52) "Weekly average temperature," the mathematical mean of multiple, equally spaced daily temperature measurements over a 7-day consecutive period, with a minimum of three data points equally spaced throughout each day;

(53) "Wetlands," those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions including swamps, marshes, bogs, and similar areas;

(54) "Zone of mixing," an area in a stream where an effluent or discharge mixes with the upstream water.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:01, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:01, July 1, 1996; 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-93.

Law Implemented: SDCL 34A-2-93.

74:51:01:02. Compliance with criteria for beneficial use. A person may not discharge or cause to be discharged into surface waters of the state pollutants which cause the receiving water to fail to meet the criteria for its existing or designated beneficial use or uses.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:02, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:02, July 1, 1996; 25 SDR 98, effective January 27, 1999.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:02.01. Beneficial use analysis required. Before renewing an existing or issuing a new individual surface water discharge permit under article 74:52, the secretary shall conduct an analysis of the water body that receives, or is proposed to receive, the discharge. This analysis is required for those water bodies that only have the fishery beneficial use classification of fish and wildlife propagation, recreation, and stock watering waters. Upon completion of the analysis, the secretary shall determine whether the water body deserves a higher designation as listed in §§ 74:51:01:45 to 74:51:01:49, inclusive, based on the attainable use or uses identified during the analysis. If the secretary determines that a higher classification is warranted, the secretary shall include water quality-based limits in the renewed or new permit that are necessary to protect the attainable beneficial use as determined by the analysis. A review is required for any affected surface water discharge permit issued after March 31, 1999.

Source: 25 SDR 98, effective January 27, 1999; 31 SDR 29, effective September 13, 2004.
General Authority: SDCL 34A-2-10, 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-93.

74:51:01:03. Restrictions for water with dual classifications. If waters have more than one designated beneficial use and criteria are established for a parameter that is common to two or more uses, such as coliform organisms or pH, the more restrictive criterion for the common parameter applies.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:03, effective July 1, 1979; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:03, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:04. Application of criterion to contiguous water. If pollutants are discharged into a segment and the criteria for that segment's designated beneficial use are not exceeded, but the waters flow into another segment whose designated beneficial use requires a more stringent parameter criterion, the pollutants may not cause the more stringent criterion to be exceeded.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:04, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:04, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:05. Materials causing pollutants to form in waters. Wastes discharged into surface waters of the state may not contain a parameter which violates the criterion for the waters' existing or designated beneficial use or impairs the aquatic community as it naturally occurs. Where the interaction of materials in the wastes and the waters causes the existence of such a parameter, the material is considered a pollutant and the discharge of such pollutants may not cause the criterion for this parameter to be violated or cause impairment to the aquatic community.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:11, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:11, July 1, 1996; 25 SDR 98, effective January 27, 1999.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-7, 34A-2-11, 34A-2-21.

74:51:01:06. Visible pollutants prohibited. Raw or treated sewage, garbage, rubble, unpermitted fill materials, municipal wastes, industrial wastes, or agricultural wastes which produce floating solids, scum, oil slicks, material discoloration, visible gassing, sludge deposits, sediments, slimes, algal blooms, fungus growths, or other offensive effects may not be discharged or caused to be discharged into surface waters of the state.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:13, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:13, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:07. Acids and alkalis. No materials may be discharged or caused to be discharged which affect the pH of the receiving waters by more than 0.5 pH unit. This does not apply to pH fluctuations of more than 0.5 pH unit contributable to natural influences.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:25, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:25, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:08. Taste- and odor-producing materials. Materials which will impart undesirable tastes or undesirable odors to the receiving water may not be discharged or caused to be discharged into surface waters of the state in concentrations that impair a beneficial use.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:26, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 41, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:26, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:09. Nuisance aquatic life. Materials which produce nuisance aquatic life may not be discharged or caused to be discharged into surface waters of the state in concentrations that impair an existing or designated beneficial use or create a human health problem.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:27, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:27, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:10. Petroleum products. A discharge of insoluble materials of petroleum derivation that imparts a visible film or sheen to the surface of the water or the adjoining shorelines is prohibited.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:29, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:29, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34-2-11.

74:51:01:11. Protection of wetlands as waters of the state. Wetlands are waters of the state and are allowed protection under the provisions of this chapter. The discharge of pollutants from any source, including indiscriminate use of fill material, may not cause destruction or impairment of wetlands except where authorized under § 402 or § 404 of the Federal Water Pollution Control Act as amended to February 4, 1987, or under 40 C.F.R. Parts 257 and 258, Solid Waste Disposal Facility Criteria; Final Rule, as amended to July 1, 1996. The provisions of §§ 74:51:01:06 to 74:51:01:10, inclusive, 74:51:01:12, 74:51:01:34 to 74:51:01:39, inclusive, 74:51:01:52, and 74:51:01:63 to 74:51:01:65, inclusive, apply to all wetlands. In addition, the department shall evaluate wetlands to determine the applicability of such wetlands to the toxic pollutant standards provided in § 74:51:01:55 and Appendix B at the end of this chapter.

Source: 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:58, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-21.

Cross-Reference: Criteria for toxic pollutants, § 74:51:01:55.

74:51:01:12. Biological integrity of waters. All waters of the state must be free from substances, whether attributable to human-induced point source discharges or nonpoint source activities, in concentrations or combinations which will adversely impact the structure and function of indigenous or intentionally introduced aquatic communities.

Source: 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:59, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

Cross-Reference: Introduction of nonnative fish into state waters prohibited, § 41:07:01:11.

74:51:01:13. Total dissolved gas pressure. In waters protected as coldwater fisheries, discharges from impoundments or other sources may not cause the total dissolved gas pressure to exceed 110 percent of the saturation value.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:28, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; transferred from § 74:03:02:28, July 1, 1996.
General Authority: SDCL 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:14. Radioactive iodine, radium, strontium, and tritium concentrations established. The average dissolved concentrations including the naturally occurring or background concentrations of iodine-131, radium-226, strontium-89, strontium-90, and tritium may not exceed the following concentration limits: iodine-131, 5 pCi/L; radium-226, 5 pCi/L; strontium-89, 100 pCi/L; strontium-90, 10 pCi/L; and tritium, 300 pCi/L.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:17, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective, July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:17, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:15. Concentrations established for miscellaneous radionuclides. For all radionuclides not listed in § 74:51:01:14, the average dissolved concentration limits in surface waters of the state are 1/150 of the corresponding maximum permissible concentration in water for continuous occupational exposure for a 168-hour week as contained in pages 24 to 91, inclusive, of Handbook 69.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:18, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:18, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

Reference: Handbook 69, Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure, issued June 5, 1959, amended August 1963, AFP 160-6-7, 101 pages, U.S. Department of Commerce, National Bureau of Standards. This document is available from the Hilton M. Briggs Library, South Dakota State University, Brookings, SD 57007-1098. The Call Number for this document is C13.11:60. The document may be borrowed from the library and copied, or the library can copy the document at $0.50 per page.

74:51:01:16. Measuring mixtures of radionuclides. Where there is mixture of dissolved radionuclides in surface waters of the state, the following relationship must be satisfied:

$$\frac{C}{L}+\frac{C}{L}+\cdots+\frac{C}{L}=1.00$$

with C denoting the average concentration of the respective radionuclide and L denoting its concentration limit established in § 74:51:01:14 or 74:51:01:15.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:19, effective July 1, 1979; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:19, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:17. Analysis for dissolved gross beta radioactivity. Where alpha emitters, strontium-90, radium-228, iodine-129, iodine-130, and lead-210 are known to be a negligibly small fraction of the specific concentration limit in surface waters of the state, analyses for dissolved gross beta radioactivity, excluding any potassium-40 contribution, may be employed to monitor and show compliance with §§ 74:51:01:14 to 74:51:01:16, inclusive, except for tritium, if the gross concentration does not exceed 100 pCi/L. If these conditions are not met, quantitative analyses of individual radionuclides shall be performed to show compliance. Except in cases where tritium from other than natural sources are known to be absent, tritium analyses shall be performed to show compliance.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:20, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:20, July 1, 1996; 31 SDR 29, effective September 13, 2004.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:18. Suspended radionuclides. For radionuclides associated with suspended materials in the water, the average concentration limits are 1/150 of the corresponding maximum

permissible concentration in water (insoluble form) for continuous occupational exposure for a 168-hour week as contained in pages 24 to 91, inclusive, of Handbook 69. Instream sedimentation of those materials may not produce solids beds and result in noncompliance, because of leaching, with the provisions of § 74:51:01:14, 74:51:01:15, or 74:51:01:16.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:21, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; transferred from § 74:03:02:21, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Reference: Handbook 69, Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure, issued June 5, 1959, amended August 1963, AFP 160-6-7, 101 pages, is published by the U.S. Department of Commerce, National Bureau of Standards. This document is available from the Hilton M. Briggs Library, South Dakota State University, Brookings, SD 57007-1098. The Call Number for this document is C13.11:60. The document may be borrowed from the library and copied, or the library can copy the document at $0.50 per page.

74:51:01:19. Maximum concentration of radionuclides per sample. The maximum concentration for any one sample may not exceed three times the average concentration limits of radionuclides specified in §§ 74:51:01:14 to 74:51:01:18, inclusive.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:22, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; transferred from § 74:03:02:22, July 1, 1996.

General Authority: SDCL 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:20. Calculation of average radionuclide concentrations. Average concentrations of radionuclides shall be computed from monitoring data acquired during the previous ten months and reported as a rolling average.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:23, effective July 1, 1979; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:23, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:21. Variances from radioactive concentration criteria. Variances from concentration limits specified in §§ 74:51:01:14 to 74:51:01:19, inclusive, are permitted only if there is a natural, uncontrollable contributing source or sources of radionuclides, the best available treatment is provided for all man-made discharges, and the concentration of radionuclides to which humans could be exposed is within the dose limits established in pages 24 to 91, inclusive, of Handbook 69.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:24, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; transferred from § 74:03:02:24, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Reference: Handbook 69, Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure, issued June 5, 1959, amended August 1963, AFP 160-6-7, 101 pages, is published by the U.S. Department of Commerce, National Bureau of Standards. This document is available from the Hilton M. Briggs Library, South Dakota State University, Brookings, SD 57007-1098. The Call Number for this document is C13.11:60. The document may be borrowed from the library and copied, or the library can copy the document at $0.50 per page.

74:51:01:22. Laboratory procedures for tests. Tests or analytical procedures to determine conformity with criteria shall be made in accordance with methods approved or references listed in 40 C.F.R. Part 136 (July 1, 2014), guidelines for establishing test procedures for the analysis of pollutants, unless other test procedures are required by the secretary.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:05, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 11, 1993; transferred from § 74:03:02:05, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-7, 34A-2-11, 34A-2-44.

74:51:01:23. Bioassay methods. The toxicity of pollutants to aquatic life shall be based on bioassays which determine concentrations of a substance which at a defined period of exposure are toxic to aquatic life. Toxicity tests shall simulate expected receiving water conditions. Tests shall be conducted according to test procedures approved or methods given in the references listed in 40 C.F.R. Part 136 (July 1, 2014), guidelines for establishing test procedures for the analysis of pollutants.

The term, acute, means a stimulus severe enough to rapidly induce an effect. In aquatic toxicity tests, a deleterious response (e.g., mortality, disorientation, immobilization) to a stimulus observed in 96 hours or less is considered acute. When referring to aquatic toxicology or human health, an acute effect is not always measured in terms of lethality.

The term, chronic, means a stimulus of the lowest concentration of a constituent causing observable effects. In aquatic toxicity tests, observable effects may include lethality, reduced growth, or reduced reproduction, usually a four- to seven-day test.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:06, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:06, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:24. Modification of criteria for specific sites. Criteria established in §§ 74:51:01:31, 74:51:01:32, and 74:51:01:44 to 74:51:01:54, inclusive, and in § 74:51:01:56 may be modified to reflect local conditions through determination of site-specific criteria for toxic pollutants in a segment. Modification of criteria must incorporate analyses of physical, chemical, and biological conditions of the receiving waters to assure maintenance of the assigned beneficial use. Actual effluents or effluent simulations may be evaluated in a toxicity testing program conducted under environmental conditions similar to the discharge site in the receiving waters. Analytical procedures, calculation procedures used to measure or demonstrate the toxicological significance of a pollutant, and numerical criteria may be modified by the board after opportunity for public review and comment.

All data necessary to defend the proposed modification of criteria are the responsibility of the person or entity requesting the modification. Methods used to develop site-specific criteria must be approved by the secretary and shall include methods to evaluate effects of bioaccumulative pollutants where appropriate. The **Water Quality Standards Handbook**, 1983 and August 1994, may be used as guidance in developing methods.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:15, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:15, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Reference: Water Quality Standards Handbook, December 1983 and August 1994, U.S. Environmental Protection Agency, Office of Water Regulations and Standards. Copies are available from the U.S. Environmental Protection Agency, Region VIII, Denver, Colorado 80203. There is no charge for this document.

Cross-Reference: Antidegradation requirements, §§ 74:51:01:34 to 74:51:01:39, inclusive.

74:51:01:25. Notification to Environmental Protection Agency of criteria changes. The board shall notify the administrator of the Environmental Protection Agency before granting a variance from, changing, modifying, or otherwise altering criteria set forth in chapters 74:51:01 to 74:51:03, inclusive.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:12, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; transferred from § 74:03:02:12, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-93.

Law Implemented: SDCL 34A-2-7, 34A-2-11, 34A-2-17.

74:51:01:25.01. Application of criteria to protect attainable beneficial use. If the secretary determines that a water body is supporting a higher existing beneficial use than is currently designated for that water body, the secretary may apply the criteria found in §§ 74:51:01:31, 74:51:01:32, and 74:51:01:44 to 74:51:01:55, inclusive, that are necessary to protect that higher attainable beneficial use. In any case, for all waters that remain Class 9 following analysis or which are designated as Class 9, the secretary may apply the provisions of § 74:51:01:55 in controlling the discharge or presence of pollutants which could reasonably be expected to interfere with the uses included in Class 9 and as necessary to support those uses.

Source: 25 SDR 98, effective January 27, 1999.

General Authority: SDCL 34A-2-10, 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-93.

74:51:01:26. Zone of mixing for wastewater discharges to flowing waters. A zone of mixing is allowed for the discharge of wastewater to a flowing water. Each properly treated wastewater discharge to a flowing water must meet the chronic criterion established for the designated beneficial uses of the receiving water at the edge of its zone of mixing. Concentrations of substances in the discharge must not cause the acute criterion established for the designated beneficial uses of the receiving water to be exceeded. The water quality criteria set forth in §§ 74:51:01:06, 74:51:01:08, 74:51:01:09, and 74:51:01:10 apply within the zone of mixing.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:07, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:07, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Cross-References: Laboratory procedures for tests, § 74:51:01:22; Criteria for toxic pollutants, § 74:51:01:55.

74:51:01:27. Lakes not allowed a zone of mixing. No zone of mixing is allowed for lakes. Discharges to lakes must meet the water quality standards at the point of discharge. No discharge of pollutants is allowed which reaches a lake classified for the beneficial use of coldwater permanent, coldwater marginal, warmwater permanent, warmwater semipermanent, or warmwater marginal fish life propagation or causes impairment of an assigned beneficial use.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:08, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective

January 31, 1993; transferred from § 74:03:02:08, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:28. Water quality-limited streams -- Compliance schedules allowed. Inclusion of schedules of compliance with water quality-based limits and requirements in permits is allowable only for existing discharges where a new or more stringent water quality standard or water quality-based effluent limit is applied. To ensure compliance with applicable water quality standards, schedules of compliance may contain interim limits and establish schedules and conditions by which compliance with final water quality-based effluent limits may be achieved. A date for final compliance is required to be as soon as possible based on reasonable, negotiated estimates of the time required to make the necessary changes (e.g., construction of additional treatment capacity) to the treatment facility. Facilities may also be required to evaluate the possibility of achieving water quality-based limits via nonconstruction changes (e.g., facility operation, best management practices, pollution prevention). Compliance schedules are subject to the certification requirements of §§ 74:51:01:63 to 74:51:01:65, inclusive, if the permit is issued by a federal authority. Compliance schedules may not be issued to a new discharge or a new source.

Source: 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:08.01, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:29. Flow rates for high quality fishery waters. A high-quality fishery water is defined as a stream classified for the beneficial use of coldwater permanent fish life propagation, coldwater marginal fish life propagation, or warmwater permanent fish life propagation. The design low flow for a high-quality fishery is the minimum 7-day average low flow that can be expected to occur once in every 25 years (7Q25). During these low flow periods, the water quality criteria set forth in §§ 74:51:01:45 to 74:51:01:47, inclusive, and in § 74:51:01:56 do not apply to the water but all surface water discharge permit limits remain in force.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:09, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:09, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-31.

74:51:01:30. Flow rates for low quality fishery and irrigation waters. A low-quality fishery water is defined as a stream classified for the beneficial use of warmwater semipermanent fish life propagation or warmwater marginal fish life propagation, or fish and wildlife propagation, recreation, and stock watering. The design low flow for a low-quality fishery or irrigation water is the minimum 7-day average low flow that can be expected to occur once in every five years (7Q5) or 1.0 cubic foot per second, whichever is greater. During these low flow periods, the water quality criteria set forth in §§ 74:51:01:48 and 74:51:01:49, inclusive, and §§ 74:51:01:52 and

74:51:01:53 do not apply to the water but all surface water discharge permit limits remain in force. If one cubic foot per second is greater than the flow expected to occur once every five years (7Q5), the toxic pollutant standards contained in Appendix B continue to apply to the water to the point where the flow in the stream drops to or below the 7Q5.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:10, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:10, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-22.

74:51:01:31. Temperature change in fish life propagation waters. There may be no induced temperature change over spawning beds. No discharge or discharges may affect the temperature by more than 4°F in streams classified for the beneficial use of coldwater permanent, coldwater marginal, or warmwater permanent fish life propagation; by more than 5°F in streams classified for the beneficial use of warmwater semipermanent or warmwater marginal fish life propagation; or by more than 3°F in lakes or impoundments classified for the beneficial use of fish life propagation. Exceptions to this criterion may be granted by the board if the discharge will not impair the designated beneficial use of fish life propagation. In addition, the maximum incremental temperature may not exceed 2°F per hour.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:39, effective July 1, 1979; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:39, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:32. Effluent limits for discharges to coldwater fishery waters. Effluents discharged from water pollution control facilities into waters classified for the beneficial use of coldwater permanent fish life propagation and coldwater marginal fish life propagation must be of high quality. In order to protect these uses, the effluent may not exceed 10 mg/L of suspended solids and 10 mg/L of 5-day biochemical oxygen demand as a 30-day average. Neither pollution characteristic may exceed 17.5 mg/L in any one sample collected during the sampling period. Facilities that apply for a permit to discharge to the reach of the Missouri River from the Big Bend Dam to the North Dakota border are exempt from this section.

Source: SL 1975, ch 16, § 1; 2 SDR 36, effective November 17, 1975; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:45, effective July 1, 1979; 7 SDR 48, effective November 24, 1980; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1989; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:45, July 1, 1996; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11, 34A-2-13.

74:51:01:34. Antidegradation of waters of the state. The antidegradation policy for this state is as follows:

(1) The existing beneficial uses of surface waters of the state and the level of water quality that is assigned by designated beneficial uses shall be maintained and protected;

(2) Surface waters of the state in which the existing water quality is better than the minimum levels prescribed by the designated beneficial use shall be maintained and protected at that higher quality level;

(3) The board, or secretary, may allow a lowering of the water quality to levels established under the designated beneficial use if it is necessary in order to accommodate important economic or social development in the area in which the waters are located;

(4) Surface waters of the state which do not meet the levels of water quality assigned to the designated beneficial use shall be improved as feasible to meet those levels;

(5) No further reduction of water quality may be allowed for surface waters of the state that do not meet the water quality levels assigned to their designated beneficial uses as a result of natural causes or conditions, and all new discharges must meet applicable water quality standards; and

(6) The secretary shall assure that regulatory requirements are achieved for all new and existing point sources and that nonpoint sources are controlled through cost effective and reasonable best management practices.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:49, July 1, 1996; 24 SDR 10, effective July 20, 1997.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-22, 34A-2-24, 34A-2-26.

74:51:01:35. Antidegradation of water quality review for existing point source discharges to waters of the state. All surface water discharge permits, at the time of renewal, shall undergo an antidegradation of water quality review by the secretary unless any one of the following situations applies:

(1) The existing facility is operating at or below design flows and pollutant loadings;

(2) The existing effluent quality is in compliance with all of the discharge permit limits;

(3) The existing discharge permittee was discharging to the current stream segment prior to March 27, 1973, and the quality and quantity of the discharge has not degraded the water quality of that segment as it existed on March 27, 1973;

(4) The existing discharge permittee, with department approval, has upgraded or built new wastewater treatment facilities between March 27, 1973, and July 1, 1988; or

(5) The existing discharge permittee discharges to a receiving water assigned only the beneficial uses of fish and wildlife propagation, recreation, and stock watering and irrigation and the discharge is not expected to contain toxic pollutants in concentrations that may cause an impact to the receiving stream. This exemption does not apply to discharges that will cause any adverse impacts to downstream segments that are of higher quality.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:50, July 1, 1996; 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-22.

74:51:01:36. Antidegradation of water quality review for new, potential point source discharges to waters of the state. New surface water discharge permit applications shall undergo an antidegradation of water quality review by the secretary prior to permit issuance. New surface water discharge permit applications are exempt from this section if the receiving water for the discharge is assigned only the beneficial uses of fish and wildlife propagation, recreation, and stock watering and irrigation and the discharge will not cause any adverse impacts to any downstream segment classified as a higher designated use.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:51, July 1, 1996; 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-22.

74:51:01:37. Antidegradation of water quality review for thermal discharges to waters of the state. In situations with potential for water quality impairment associated with a thermal discharge, any antidegradation water quality review must be consistent with § 316 of the Federal Water Pollution Control Act as amended to February 4, 1987.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:52, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-22.

74:51:01:37.01. Antidegradation review public notice requirements. For any discharge for which an antidegradation review is required by this chapter, the secretary shall allow for intergovernmental coordination and public participation by providing a public notice of the secretary's recommendation and findings in a daily or weekly newspaper which serves the affected area. The public notice shall follow the requirements of chapter 74:52:05. If a petition in accordance with chapter 74:50:02 contesting the secretary's recommendation is received by the

department, a contested case hearing shall be held before the board. If the recommendation is not contested, that recommendation shall become the final determination on the review.

Source: 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004.
General Authority: SDCL 34A-2-11, 34A-2-93, 34A-2-113.
Law Implemented: SDCL 34A-2-22.

74:51:01:38. Antidegradation of water quality review for nonpoint source discharges to waters of the state. Nonpoint sources shall be reviewed as feasible by the board. Nonpoint source discharges shall be controlled utilizing cost-effective methods and reasonable best management practices.

Source: 14 SDR 86, effective December 24, 1987; transferred from § 74:03:02:53, July 1, 1996.
General Authority: SDCL 34A-2-93.
Law Implemented: SDCL 34A-2-22.

74:51:01:39. Outstanding state resource waters. Surface waters of the state that are of high quality or are of exceptional recreational or ecological significance may be designated by the board as outstanding state resource waters. If high quality waters constitute an outstanding state resource water, that water quality shall be maintained and protected. Anyone wishing to nominate outstanding state resource waters shall follow petition requirements outlined in SDCL 1-26-13.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:54, July 1, 1996; 24 SDR 10, effective July 20, 1997.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-11, 34A-2-22.

74:51:01:41. Application of chronic/acute criteria. Acute and chronic criteria established under § 74:51:01:55 and as translated by Appendix B at the end of this chapter shall be applied as follows:

(1) Compliance with the chronic criteria or criteria continuous concentration (CCC) is based on the results of a 30-day average. Compliance with CCC in a surface water discharge permit may be based on grab or composite samples;

(2) Compliance with the acute criteria or criteria maximum concentration (CMC) is based on the results of any one grab sample. However, compliance with CMC in a surface water discharge permit may be based on a composite sample.

Source: 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:32.01, July 1, 1996; 24 SDR 10, effective July 20, 1997.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-7, 34A-2-11, 34A-2-21.

Cross-References: Criteria for toxic pollutants, § 74:51:01:55.

74:51:01:42. Beneficial uses of waters established. The beneficial use classifications of surface waters of the state established in this section do not limit the actual use of such waters. The classifications designate the minimum quality at which the surface waters of the state are to be maintained and protected. The following are the beneficial use classifications:

(1) Domestic water supply waters;
(2) Coldwater permanent fish life propagation waters;
(3) Coldwater marginal fish life propagation waters;
(4) Warmwater permanent fish life propagation waters;
(5) Warmwater semipermanent fish life propagation waters;
(6) Warmwater marginal fish life propagation waters;
(7) Immersion recreation waters;
(8) Limited contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters;
(10) Irrigation waters; and
(11) Commerce and industry waters.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:30, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:30, July 1, 1996; 25 SDR 98, effective January 27, 1999.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

Cross-References:
Beneficial uses of lakes indicated by listings, § 74:51:02:03.
Beneficial uses of streams indicated by listings, § 74:51:03:02.
Antidegradation standards, §§ 74:51:01:34 to 74:51:01:39, inclusive.

74:51:01:43. Missouri River impoundments classified as streams. For the purposes of chapters 74:51:01 to 74:51:03, inclusive, the Missouri River impoundments are classified as flowing streams and not as reservoirs.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:31, effective July 1, 1979; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:31, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:44. Criteria for domestic water supply waters. The criteria of parameters for domestic water supply waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total dissolved solids	$\leq$ 1,000	mg/L	30-day average

Parameter	Criteria	Unit of Measure	Special Conditions
	≤ 1,750	mg/L	daily maximum
Nitrates as N	≤ 10	mg/L	daily maximum
pH	≥ 6.5 - ≤ 9.0	units	
Total Coliform	≤ 5,000	/100 mL	geometric mean of a minimum of 5 samples during separate 24-hour periods for a 30-day period and may not exceed this value in more than 20 percent of the samples examined in the same 30-day period
	≤ 20,000	/100 mL	in any one sample
Barium	≤ 1.0	mg/L	daily maximum
Chloride	≤ 250	mg/L	30-day average
	≤ 438	mg/L	daily maximum
Fluoride	≤ 4.0	mg/L	daily maximum
Sulfate	≤ 500	mg/L	30-day average
	≤ 875	mg/L	daily maximum
Total Petroleum Hydrocarbons	≤ 1.0	mg/L	daily maximum

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:33, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:33, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:45. Criteria for coldwater permanent fish life propagation waters. The criteria of parameters for coldwater permanent fish life propagation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total ammonia nitrogen as N	Equal to or less than the result from Equation 3 in Appendix A	mg/L	30-day average
	Equal to or less than the result	mg/l	daily maximum

Parameter	Criteria	Unit of Measure	Special Conditions
	from Equation 1 in Appendix A		
Chlorides	≤ 100	mg/L	30-day average
	≤ 175	mg/L	daily maximum
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	≥ 6.0	mg/L	daily minimum
	≥ 7.0	mg/L	in spawning areas during the spawning season
Undisassociated hydrogen sulfide	≤ 0.002	mg/L	daily maximum
pH	≥ 6.5 - ≤ 9.0	units	see § 74:51:01:07
Total Suspended Solids	≤ 30	mg/L	30-day average
	≤ 53	mg/L	daily maximum
Temperature	≤ 65	°F	see § 74:51:01:31

For special effluent limitations related to coldwater fisheries, see § 74:51:01:32.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:34, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:34, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:45.01. Site-specific criteria for coldwater permanent fish life propagation waters -- Black Hills Trout Management Area. The following site-specific criteria apply to all coldwater permanent fish life propagation streams within the Black Hills Trout Management Area:

Parameter	Criteria	Unit of Measure	Special Conditions
Temperature	75.2	°F	daily maximum
	66.2	°F	weekly average temperature

Source: 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:46. Criteria for coldwater marginal fish life propagation waters. The criteria of parameters for coldwater marginal fish life propagation waters and their allowable variations

that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total ammonia nitrogen as N	Equal to or less than the result from Equation 3 in Appendix A	mg/L	30-day average
	Equal to or less than the result from Equation 1 in Appendix A	mg/L	daily maximum
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	≥ 5.0	mg/L	daily minimum
Undisassociated hydrogen sulfide	≤ 0.002	mg/L	daily maximum
pH	≥ 6.5 - ≤ 9.0	units	see § 74:51:01:07
Total Suspended Solids	≤ 90	mg/L	30-day average
	≤ 158	mg/L	daily maximum
Temperature	≤ 75	°F	see § 74:51:01:31

For special effluent limitations related to coldwater fisheries, see § 74:51:01:32.

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:35, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:35, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:46.01. Site-specific criteria for coldwater marginal fish life propagation waters -- Black Hills Trout Management Area. The following criterion applies to all coldwater marginal fish life propagation streams within the Black Hills Trout Management Area:

Parameter	Criteria	Unit of Measure	Special Conditions
Temperature	75.2	°F	daily maximum

Source: 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:47. Criteria for warmwater permanent fish life propagation waters. The criteria of parameters for warmwater permanent fish life propagation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total ammonia nitrogen as N	Equal to or less than the result from Equation 3 in Appendix A	mg/L	30-day average March 1 - October 31
	Equal to or less than the result from Equation 4 in Appendix A	mg/L	30 day average November 1 - February 29
	Equal to or less than the result from Equation 2 in Appendix A	mg/L	daily maximum
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	$\geq$ 5.0	mg/L	daily minimum
	$\geq$ 6.0		in Big Stone Lake and Lake Traverse during April and May
Undisassociated hydrogen sulfide	$\leq$ 0.002	mg/L	daily maximum
pH	$\geq$ 6.5 - $\leq$ 9.0	units	see § 74:51:01:07
Total Suspended Solids	$\leq$ 90	mg/L	30-day average
	$\leq$ 158	mg/L	daily maximum
Temperature	$\leq$ 80	°F	see § 74:51:01:31

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:36, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:36, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:48. Criteria for warmwater semipermanent fish life propagation waters. The criteria of parameters for warmwater semipermanent fish life propagation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total ammonia nitrogen as N	Equal to or less than the result from Equation 3 in Appendix A	mg/L	30-day average March 1 - October 31
	Equal to or less than the result from Equation 4 in Appendix A	mg/L	30-day average November 1 - February 29
	Equal to or less than the result from Equation 2 in Appendix A	mg/L	daily maximum
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	$\geq$ 5.0	mg/L	daily minimum
Undisassociated hydrogen sulfide	$\leq$ 0.002	mg/L	daily maximum
pH	$\geq$ 6.5 - $\leq$ 9.0	Units	see § 74:51:01:07
Total Suspended Solids	$\leq$ 90	mg/L	30-day average
	$\leq$ 158	mg/L	daily maximum
Temperature	$\leq$ 90	°F	see § 74:51:01:31

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:37, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:37, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:48.01. Site-specific criteria for semipermanent fish life propagation waters -- White River from the Nebraska-South Dakota border to its confluence with the Missouri River. The following site-specific criteria for semipermanent fish life propagation waters are established for the White River from the Nebraska-South Dakota border to its confluence with the Missouri River:

Parameter: Total Suspended Solids	Criteria	Unit of Measure	Special Conditions
White River from the Nebraska-South Dakota border to its confluence with Willow Creek	$\leq$ 4,525	mg/L	daily maximum
White River from its confluence with Willow Creek to its	$\leq$ 24,300	mg/L	daily maximum

confluence with the Little White River			
White River from its confluence with the Little White River to its confluence with the Missouri River	≤ 21,550	mg/L	daily maximum

Source: 35 SDR 253, effective May 12, 2009.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:48.02. Site-specific criterion for semipermanent fish life propagation waters -- Little White River from its confluence with Rosebud Creek to its confluence with the White River. The following site-specific criterion for semipermanent fish life propagation waters is established for the Little White River from its confluence with Rosebud Creek to its confluence with the White River:

Parameter	Criteria	Unit of Measure	Special Condition
Total Suspended solids	≤ 1,733	mg/L	daily maximum

Source: 35 SDR 253, effective May 12, 2009.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:49. Criteria for warmwater marginal fish life propagation waters. The criteria for warmwater marginal fish life propagation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total ammonia nitrogen as N	Equal to or less than the result from Equation 3 in Appendix A	mg/L	30-day average May 1 - October 31
	Equal to or less than the result from Equation 4 in Appendix A	mg/L	30-day average November 1 - April 30
	Equal to or less than the result from Equation 2 in Appendix A	mg/L	daily maximum

Parameter	Criteria	Unit of Measure	Special Conditions
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	≥ 4.0	mg/L	daily minimum October 1 - April 30
	≥ 5.0	mg/L	daily minimum May 1 - September 30
Undisassociated hydrogen sulfide	≤ 0.002	mg/L	daily maximum
pH	≥ 6.0 - ≤ 9.0	units	see § 74:51:01:07
Total Suspended Solids	≤ 150	mg/L	30-day average
	≤ 263	mg/L	daily maximum
Temperature	≤ 90	°F	see § 74:51:01:31

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; 5 SDR 21, effective September 21, 1978; transferred from § 34:04:02:38, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:38, July 1, 1996; 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:50. Criteria for immersion recreation waters. The criteria of parameters for immersion recreation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table and only apply May 1 - September 30:

Parameter	Criteria	Unit of Measure	Special Conditions
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	≥ 5.0	mg/L	daily minimum
Escherichia coli	≤ 126	/100 mL	geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period
	≤ 235		in any one sample

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:40, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:40, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009; 42 SDR 103, effective January 19, 2016.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:51. Criteria for limited contact recreation waters. The criteria of parameters for limited contact recreation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table and only apply May 1 - September 30:

Parameter	Criteria	Unit of Measure	Special Conditions
Dissolved oxygen as measured anywhere in the water column of a non-stratified water body, or in the epilimnion and metalimnion of a stratified water body	≥ 5.0	mg/L	daily minimum
Escherichia coli	≤ 630	/100mL	geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period
	≤ 1178		in any one sample

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:41, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:41, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009; 42 SDR 103, effective January 19, 2016.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:52. Criteria for fish and wildlife propagation, recreation, and stock watering waters. The criteria of parameters for fish and wildlife propagation, recreation, and stock watering waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total alkalinity as calcium carbonate	≤ 750	mg/L	30-day average
	≤ 1313	mg/L	daily maximum
Total dissolved solids	≤ 2,500	mg/L	30-day average
	≤ 4,375	mg/L	daily maximum
Conductivity at 25°C	≤ 4,000	micromhos/cm	30-day average
	≤ 7,000	micromhos/cm	daily maximum
Nitrates as N	≤ 50	mg/L	30-day average
	≤ 88	mg/L	daily maximum
pH	≥ 6.0 - ≤ 9.5	units	see § 74:51:01:07
Total petroleum hydrocarbon	≤ 10	mg/L	see § 74:51:01:10
Oil and grease	≤ 10	mg/L	see § 74:51:01:10

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:42, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:42, July 1, 1996; 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:53. Criteria for irrigation waters. The criteria of parameters for irrigation waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Conductivity at 25°C	≤ 2,500	micromhos/cm	30-day average
	≤ 4,375	micromhos/cm	daily maximum
Sodium adsorption ratio	≤ 10		see definition

Source: SL 1975, ch 16, § 1; 4 SDR 32, effective December 4, 1977; transferred from § 34:04:02:43, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:43, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:53.01. Site specific criterion for irrigation waters -- Belle Fourche River from the Wyoming-South Dakota border to its confluence with the Cheyenne River. The following site-specific criterion for irrigation waters is established for the Belle Fourche River from the Wyoming-South Dakota border to its confluence with the Cheyenne River:

Sodium adsorption ratio	≤ 6		See definition

Source: 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:54. Criteria for commerce and industry waters. The criteria of parameters for commerce and industry waters and their allowable variations that are not included under § 74:51:01:55 and Appendix B, unless set under § 74:51:01:24, are as found in the following table:

Parameter	Criteria	Unit of Measure	Special Conditions
Total dissolved solids	≤ 2,000	mg/L	30-day average
	≤ 3,500	mg/L	daily maximum
pH	≥ 6.0 - ≤ 9.5	units	see § 74:51:01:07

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:44, effective July 1, 1979: 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:44, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:55. Criteria for toxic pollutants. Toxic pollutants at levels which are or may become injurious to public health, safety, or welfare; plant, aquatic, and animal life; or the existing or designated uses of waters may not be present in the surface waters of the state. The toxic pollutants to which this section applies are the priority pollutants and chemicals in 40 C.F.R. Part 131 (July 1, 2008) and any other toxic pollutants or substances determined by the secretary to be of concern at a specific site. Appendix B at the end of this chapter lists the priority pollutants and chemicals for which specific numerical criteria have been adopted by the board.

The levels of toxic pollutants allowed in surface waters shall be determined by the secretary in accordance with the chronic/acute criteria levels specified for human health and aquatic life in the National Recommended Water Quality Criteria and as translated in Appendix B. The secretary shall use a one-in-a-million (10^{-6}) risk level when determining applicable human health criteria.

Upon written request, the board may determine allowable levels of toxic pollutants in surface waters of the state in accordance with § 74:51:01:23 or 74:51:01:24, after opportunity for public review and comment. If a numerical criterion has been established for a toxic pollutant in §§ 74:51:01:31, 74:51:01:32, and 74:51:01:44 to 74:51:01:54, inclusive, and in § 74:51:01:56, the provisions of this section do not apply to that substance. Toxic pollutants identified in and allowed by §§ 74:51:01:58 and 74:51:01:59 for water resource enhancement or restoration projects are exempt from the provisions of this section.

Source: SL 1975, ch 16, § 1; transferred from § 34:04:02:14, effective July 1, 1979; 10 SDR 145, effective July 4, 1984; 13 SDR 129, 13 SDR 141, effective July 1, 1987; 14 SDR 86, effective December 24, 1987; 16 SDR 196, effective May 23, 1990; 18 SDR 128, effective February 11, 1992; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:14, July 1, 1996; 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Reference: National Recommended Water Quality Criteria: (October 2014) The priority pollutants can be found on the United States Environmental Protection Agency's website at http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable.

Cross-References: Toxic pollutant criteria, Appendix B, ch 74:51:01; Protection of wetlands as waters of the state, § 74:51:01:11.

74:51:01:56. Site-specific criteria for Whitewood Creek from Interstate 90 to its confluence with Gold Run Creek. In addition to the criteria of parameters for the beneficial uses assigned in § 74:51:03:10 to the segment of Whitewood Creek from Interstate 90 to its confluence with Gold Run Creek and their allowable variations as listed in § 74:51:01:55, Appendix B, § 74:51:01:46 and §§ 74:51:01:50 to 74:51:01:53, inclusive, the following site-specific criteria are established for this segment:

Parameter	30-day average (ug/L)
Cyanide - weak acid dissociable (WAD)	80
Cadmium, total recoverable	10
Copper, total recoverable	80
Lead, total recoverable	70
Mercury, total recoverable	0.8
Silver, total recoverable	20

For the Lead-Deadwood Sanitary District effluent quality for total suspended solids may not exceed 18 mg/L as a 30-day average and effluent quality for 5-day biochemical oxygen demand may not exceed 10 mg/L as a 30-day average. For South Dakota Science and Technology Authority effluent quality for total suspended solids may not exceed 10 mg/L as a 30-day average. In accordance with the statements in this section, the existing surface water discharge permittees in this segment are exempt from the total suspended solids limits and 5-day biochemical oxygen demand limits contained in § 74:51:01:32.

Source: 14 SDR 86, effective December 24, 1987; 18 SDR 169, effective April 12, 1992; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:48, July 1, 1996; 24 SDR 10, effective July 20, 1997; 35 SDR 253, effective May 12, 2009.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

Cross-References: Modification of criteria for specific sites, § 74:51:01:24; Effluent limitations for discharges to trout fishery waters, § 74:51:01:32.

74:51:01:58. Water resource enhancement or restoration projects -- Use of toxic pollutants. Toxic pollutants established under §§ 74:51:01:32 and 74:51:01:44 to 74:51:01:55, inclusive, may be present in surface waters of the state for the purpose of water resource enhancement or restoration if the overall goals of the project justify the short-term detriment.

Source: 18 SDR 128, effective February 11, 1992; 19 SDR 111, effective January 31, 1993; requirements for use of EPA-registered pesticides transferred to § 74:03:02:47.01.01, 21 SDR 214, effective June 21, 1995; transferred from § 74:03:02:47.01, July 1, 1996.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:59. Water resource enhancement or restoration projects -- Use of EPA-registered pesticides. The use of EPA-registered pesticides in accordance with the individual label

requirements specifying handling and application to aquatic sites is presumed not to cause long-term damage to the environment. The application of all registered pesticides must comply with SDCL chapter 38-21, 7 U.S.C.A. § 136 et seq. (October 25, 1988), and §§ 74:51:01:60 and 74:51:01:61. This section does not exempt any person from the penalty provisions of SDCL 34A-2-75 if misapplication results in impairment of a designated beneficial use.

Source: Transferred from § 74:03:02:47.01, 21 SDR 214, effective June 21, 1995; transferred from § 74:03:02:47.01.01, July 1, 1996; 31 SDR 29, effective September 13, 2004.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:60. Water resource enhancement or restoration projects -- Department approval required. Projects designed to enhance or restore overall water quality or beneficial uses may include application of registered pesticides for elimination of nuisance aquatic life, including algae, weeds, and undesirable fish life; furtherance of fish and wildlife research projects; and removal of accumulated sediment. The secretary may allow these projects after review and approval of a written project plan and after opportunity for public review and comment if this is required pursuant to § 74:51:01:61. The project plan shall be submitted on a form provided by the department and shall contain the following information:

(1) Name and address of responsible party;
(2) Project goals and purpose;
(3) Project description;
(4) Legal location of project;
(5) Bodies of water affected;
(6) Estimated date and duration of project;
(7) Methods implemented to minimize pollution;
(8) Other alternatives available and reasons for rejection;
(9) Name and label of product to be used;
(10) Application rates;
(11) Application methods; and
(12) Surfactant toxicity information, if available.

If applicable, the applicant shall provide the department proof of application to or authorization from the South Dakota Department of Game, Fish and Parks under the provisions of SDCL 41-13-1 and 41-13-2 and of 41-12-13. The applicant shall provide the department proof of notification to the local emergency planning committee for projects that include the use of a registered pesticide.

Source: 18 SDR 128, effective February 11, 1992; 19 SDR 111, effective January 31, 1993; 21 SDR 214, effective June 21, 1995; transferred from § 74:03:02:47.02, July 1, 1996; 24 SDR 10, effective July 20, 1997.

General Authority: SDCL 34A-2-11, 34A-2-93.

Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:61. Publication of notice of application for water resource enhancement or restoration projects -- Exception for registered pesticides. The applicant shall publish notice of application for approval of the proposed water resource enhancement or restoration project in one newspaper which serves the affected area. The secretary shall provide the notice and shall approve or select the official newspaper. The notice shall be published at least 10 days before the start of the proposed project. The notice shall include a summary of the proposed activity and the secretary's recommendation. If no comments are received within the 10-day notice period, the secretary shall approve or deny the plan in accordance with the secretary's recommendation as published in the notice. The cost of publication is the responsibility of the applicant.

A water restoration or enhancement project that includes the application of a registered pesticide only is not subject to the notice requirements of this section if all of the following criteria are met:

(1) The registered pesticide will not be applied within one-half mile of a well or surface intake used as a public water supply source;

(2) The registered pesticide will be applied only to surface waters of the state that are not designated for the beneficial use of immersion recreation and limited contact recreation; and

(3) The project will not affect more than 70 percent of the aquatic vegetation existing before the first application as approved by the secretary.

Source: 18 SDR 128, effective February 11, 1992; 21 SDR 214, effective June 21, 1996; transferred from § 74:03:02:47.03, July 1, 1996; 24 SDR 10, effective July 20, 1997.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

Cross-Reference: Legal newspapers and publication of notice, SDCL chapter 17-2.

74:51:01:62. Hearing procedure for water resource enhancement or restoration projects. If any water resource enhancement or restoration project that requires public notice is contested in writing, the board shall hold a hearing pursuant to chapter 74:50:02. Based on the record of the hearing, the board shall approve the project if the board determines the overall goals of the project justify any short-term detriments and it is in the public interest.

Source: 18 SDR 128, effective February 11, 1992; 21 SDR 214, effective June 21, 1995; transferred from § 74:03:02:47.04, July 1, 1996.
General Authority: SDCL 34A-2-11, 34A-2-93.
Law Implemented: SDCL 34A-2-10, 34A-2-11.

74:51:01:63. Application requirements for certification of compliance with water quality standards. An applicant for a federal permit or license to conduct an activity, including the construction or operation of facilities, which may result in a discharge of pollutants into surface waters of the state must receive certification of compliance with water quality standards from the secretary. A copy of the federal project application as submitted by the applicant or the responsible

federal agency shall serve as request for certification. If the contents of the federal application do not provide adequate information to determine compliance with applicable water quality standards, the secretary may request any additional information required to determine compliance, including the following:

(1) The name and address of the applicant;

(2) A description of the activity to be performed, including the amount, duration, and potential impacts of any discharges to surface waters of the state;

(3) A description of the uses of the surface waters of the state within a one-quarter mile radius of the affected area;

(4) A description of any monitoring to be conducted prior to, during, and following the activity to assess impacts on water quality;

(5) A description of the present water quality in the affected area;

(6) A list and description of processes and operating procedures conducted by the permittee to reduce or eliminate impacts on water quality;

(7) The date or dates that the activity will begin and end, if known, and the date or dates that a discharge will occur; and

(8) A plan to avoid, minimize, or compensate for any adverse impacts directly attributable to the project, including changes in or reduction of:

(a) Channel length or width;
(b) Flood storage;
(c) Riparian habitat;
(d) Hydrology;
(e) Acreage; or
(f) Biological community.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:55, July 1, 1996; 31 SDR 29, effective September 13, 2004; 41 SDR 109, effective January 12, 2015.
General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.
Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

74:51:01:64. Notice requirements for certification of compliance with water quality standards for hydropower facilities. The secretary shall ensure that public notice of any proposed actions for water quality certification for hydropower facilities regulated by the Federal

Energy Regulatory Commission is provided either by the responsible federal agency or by the department. The public notice for hydropower facilities shall follow requirements in § 74:52:05:13 and must be published in a daily or weekly newspaper that serves the affected area.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; 21 SDR 18, effective August 8, 1994; transferred from § 74:03:02:56; July 1, 1996, 24 SDR 10, effective July 20, 1997 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.

Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

74:51:01:64.01. Notice requirements for certification of compliance with water quality standards for dredge and fill permits. The secretary shall ensure that public notice of any proposed actions for water quality certification under § 404 of the Federal Water Pollution Control Act as amended to February 4, 1987, is provided either by the responsible federal agency or by the department. The public notice for dredge and fill activities must be distributed for posting in post offices or other public places in the county of the site of the proposed project. The public notice must be sent to the applicant, to applicable city and county officials, to adjoining property owners, and to applicable state and federal agencies. Copies of the public notice must be sent to all parties requesting copies.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; 21 SDR 18, effective August 8, 1994; transferred from § 74:51:01:64, 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.

Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

74:51:01:64.02. Notice requirements for certification of compliance with water quality standards for federal issued national pollutant discharge elimination system permits. The secretary shall ensure that public notice of any proposed actions for water quality certification for national pollutant discharge elimination system permits issued by the EPA, under § 402 of the Federal Water Pollution Control Act as amended to February 4, 1987, is provided either by the responsible federal agency or by the department. The public notice for federal issued national pollutant discharge elimination system permits must follow requirements in § 74:52:05:13 and must be published in a daily or weekly newspaper that serves the affected area.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; 21 SDR 18, effective August 8, 1994; transferred from § 74:51:01:64, 24 SDR 10, effective July

20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.

Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

74:51:01:64.03. Contents of public notice for certification of compliance with water quality standards. At a minimum, the public notice required in §§ 74:51:01:64 to 74:51:01:64.02, inclusive, must include the following:

(1) A brief description of the proposed activity and a summary of the application information required in the application;

(2) A period of time, at least 15 days from the date of mailing, within which interested parties may express their views concerning the permit application; and

(3) A statement that any person may request, in writing, within the comment period specified in the notice, that a public hearing pursuant to chapter 74:50:02 be held to consider the application. Requests for public hearings must state the reasons for holding a public hearing.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; 21 SDR 18, effective August 8, 1994; transferred from § 74:51:01:64, 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.

Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

74:51:01:65. Secretary's certification of compliance with water quality standards. The certification of the secretary that water quality standards are protected must include the conditions that are necessary to ensure compliance with the provisions of this chapter and a statement that there is a reasonable assurance that the activity will be conducted in a manner that will not violate applicable water quality standards. The secretary shall provide certification or denial of certification to the applicant within 60 working days after receipt of the complete application.

If the secretary fails to issue certification within the 60 working days after receipt of the application or fails to submit to the responsible federal agency a written request to allow an extension of time for a determination, the applicant may consider water quality certification to be waived. The secretary may expressly waive in writing the authority to act on the request for certification.

Source: 14 SDR 86, effective December 24, 1987; 19 SDR 111, effective January 31, 1993; transferred from § 74:03:02:57, July 1, 1996; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015.

General Authority: SDCL 34A-2-11, 34A-2-33, 34A-2-34, 34A-2-93.

Law Implemented: SDCL 34A-2-33, 34A-2-34.

Cross-Reference: State certification of activities requiring a federal license or permit, 40 C.F.R. § 121 (July 1, 2014).

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER POLLUTION CONTROL PROGRAM

TOTAL AMMONIA CRITERIA

Chapter 74:51:01

APPENDIX A

SEE: § 74:51:01:22

Source: Effective November 14, 1980; transferred from Chapter 74:03:02, Appendix A, July 1, 1996; transferred from Chapter 74:51:01, Appendix C, 24 SDR 10, effective July 20, 1997; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009.

APPENDIX A TO CHAPTER 74:51:01

Equation 1: For waters where salmonid fish are present. $(0.275/(1+10^{7.204-pH})) + (39.0/(1+10^{pH-7.204}))$
pH = the pH of the water quality sample in standard units.

Equation 2: For waters where salmonid fish are not present. $(0.411/(1+10^{7.204-pH})) + (58.4/(1+10^{pH-7.204}))$
pH - the pH of the water quality sample in standard units.

Equation 3: For waters where early life stages are present. $(((0.0577/(1 + 10^{7.688-pH})) + (2.487/(1+10^{pH-7.688}))) * MIN(2.85, 1.45 * 10^{0.028 * (25-T)})$
MIN = use either 2.85 or the value of $1.45^{0.028 * (25-T)}$, whichever is the smaller value. T = the water temperature of the sample in degrees Centigrade. pH - the pH of the water quality sample in standard units.

Equation 4: For waters where early life stages are absent. $(((0.0577/(1 + 10^{7.688-pH})) + (2.487/(1 + 10^{pH-7.688}))) * 1.45 * 10^{0.028 * (25-MAX(T,7))}$
T = the water temperature of the sample in degrees Centigrade. pH = the pH of the water quality sample in standards units. MAX = use either the water temperature (T) for the sample, or 7, whichever is the greater value.

Reference: 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, December 1999.

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

WATER POLLUTION CONTROL PROGRAM

TOXIC POLLUTANT CRITERIA

Chapter 74:51:01

APPENDIX B

SEE: § 74:51:01:55

Source: 19 SDR 111, effective January 31, 1993; transferred from Chapter 74:03:02, Appendix C, July 1, 1996; transferred from Chapter 74:51:01, Appendix A, 24 SDR 10, effective July 20, 1997; 25 SDR 98, effective January 27, 1999; 31 SDR 29, effective September 13, 2004; 35 SDR 253, effective May 12, 2009; 41 SDR 109, effective January 12, 2015; 42 SDR 103, effective January 19, 2016.

SOUTH DAKOTA SURFACE WATER QUALITY STANDARDS[1] FOR TOXIC POLLUTANTS - ARSD 74:51:01					
Pollutant	CAS Number	Human Health Value Concentrations in µg/L		Freshwater Aquatic Life Value Concentrations in µg/L Uses 2-3-4-5-6-9	
		Use 1[2]	Uses 2-3-4-5-6-9[3]	Acute (CMC)	Chronic (CCC)
Acenaphthene	83329	670	990		
Acenaphthylene (PAH)[6]	208968				
Acrolein	107028	6	9	3	3
Acrylonitrile[4]	107131	0.051	0.25		
Aldrin[4]	309002	0.000049	0.000050	3.0	
Anthracene (PAH)[5]	120127	8,300	40,000		
Antimony	7440360	5.6	640		
Arsenic[4]	7440382	0.018[4][11]	0.14[4][11]	340	150
Asbestos[4]	1332214	7,000,000 fibers/L			
alpha-BHC[4]	319846	0.0026	0.0049		
beta-BHC[4]	319857	0.0091	0.017		
gamma-BHC (Lindane)[4]	58899	0.98	1.8	0.95	
Benzene[4]	71432	2.2	51		
Benzidine[4]	92875	0.000086	0.00020		
Benzo(a)Anthracene[4]	56553	0.0038	0.018		
Benzo(a)Pyrene[4]	50328	0.0038	0.018		
Benzo(b)Fluoroanthene[4]	205992	0.0038	0.018		
Benzo(k)Flouroanthene[4]	207089	0.0038	0.018		
Beryllium[4]	7440417	4			
Bis(2-Chloroethyl)Ether[4]	111444	0.030	0.53		
Bis(2-Chloroisopropyl)Ether[4]	108601	1,400	65,000		
Bis(2-Ethylhexyl)Phthalate[4]	117817	1.2	2.2		
Bromoform[5]	75252	4.3	140		
Butylbenzyl Phthalate	85687	1,500	1,900		
Cadmium	7440439			2.0[7]	0.25[7]
Carbon Tetrachloride[4]	56235	0.23	1.6		
Chlordane[4]	57749	0.00080	0.00081	2.4	0.0043
Chlorine	7782505			19	11
Chlorobenzene	108907	130	1,600		
Chlorodibromomethane[4]	124481	0.40	13		
Chloroform[4]	67663	5.7	470		
2-Chloronaphthalene	91587	1,000	1,600		
2-Chlorophenol	95578	81	150		
Chromium(III)	16065831			570[7]	74[7]

SOUTH DAKOTA SURFACE WATER QUALITY STANDARDS[1] FOR TOXIC POLLUTANTS - ARSD 74:51:01					
Pollutant	CAS Number	Human Health Value Concentrations in µg/L		Freshwater Aquatic Life Value Concentrations in µg/L Uses 2-3-4-5-6-9	
		Use 1[2]	Uses 2-3-4-5-6-9[3]	Acute (CMC)	Chronic (CCC)
Chromium(VI)	18540299			16	11
Chrysene[4]	218019	0.0038	0.018		
Copper	7440508	1,300		13[7]	9.0[7]
Cyanide (weak acid dissociable)	57125	140	140	22	5.2
4,4'-DDD[4]	72548	0.00031	0.00031		
4,4'-DDE[4]	72559	0.00022	0.00022		
4,4'-DDT[4]	50293	0.00022	0.00022	1.1	0.001
Dibenzo(a,h)Anthracene[4]	53703	0.0038	0.018		
1,2-Dichlorobenzene	95501	420	1,300		
1,3-Dichlorobenzene	541731	320	960		
1,4-Dichlorobenzene	106467	63	190		
3,3'-Dichlorobenzidine[4]	91941	0.021	0.028		
Dichlorobromomethane[5]	75274	0.55	17		
1,2-Dichloroethane[4]	107062	0.38	37		
1,1-Dichloroethylene[4]	75354	330	7,100		
2,4-Dichlorophenol	120832	77	290		
1,2-Dichloropropane[4]	78875	0.50	15		
1,3-Dichloropropene	542756	0.34	21		
Dieldrin[4]	60571	0.000052	0.000054	0.24	0.056
Diethyl Phthalate	84662	17,000	44,000		
2,4-Dimethylphenol	105679	380	850		
Dimethyl Phthalate	131113	270,000	1,100,000		
Di-n-Butyl-Phthalate	84742	2,000	4,500		
2-Methyl-4,6-Dinitrophenol	534521	13	280		
2,4-Dinitrophenol	51285	69	5,300		
Dioxin (2,3,7,8-TCDD)[4]	1746016	5.0E-9	5.1E-9		
2,4-Dinitrotoluene[4]	121142	0.11	3.4		
1,2-Diphenylhydrazine[4]	122667	0.036	0.20		
alpha-Endosulfan	959988	62	89	0.22	0.056
beta-Endosulfan	33213659	62	89	0.22	0.056
Endosulfan Sulfate	1031078	62	89		
Endrin	72208	0.059	0.060	0.086	0.036
Endrin Aldehyde	7421934	0.29	0.30		
Ethylbenzene	100414	530	2,100		
Fluoranthene	206440	130	140		

SOUTH DAKOTA SURFACE WATER QUALITY STANDARDS[1] FOR TOXIC POLLUTANTS - ARSD 74:51:01					
Pollutant	CAS Number	Human Health Value Concentrations in µg/L		Freshwater Aquatic Life Value Concentrations in µg/L Uses 2-3-4-5-6-9	
		Use 1[2]	Uses 2-3-4-5-6-9[3]	Acute (CMC)	Chronic (CCC)
Fluorene[5]	86737	1,100	5,300		
Heptachlor[4]	76448	0.000079	0.000079	0.52	0.0038
Heptachlor epoxide[4]	1024573	0.000039	0.000039	0.52	0.0038
Hexachlorobenzene[4]	118741	0.00028	0.00029		
Hexachlorobutadiene[4]	87683	0.44	18		
Hexachlorocyclopentadiene	77474	40	1,100		
Hexachloroethane[4]	67721	1.4	3.3		
Ideno(1,2,3-cd)Pyrene	193395	0.0038	0.018		
Isophorone[4]	78591	35	960		
Lead	7439921			65[7]	2.5[7]
Mercury	7439976	0.050	0.051	1.4	0.77[8]
Methyl Bromide	74839	47	1,500		
Methyl Chloride[5]	74873				
Methylene Chloride[4]	75092	4.6	590		
Methylmercury	22967926		0.3 mg/kg		
N-Nitrosodimethylamine[4]	62759	0.00069	3.0		
N-Nitrosodi-n-Propylamine[4]	621647	0.0050	0.51		
N-Nitrosodiphenylamine[4]	86306	3.3	6.0		
Nickel	7440020	610	4,600	470[7]	52[7]
Nitrobenzene	98953	17	690		
Nonylphenol	84852153			28	6.6
Polychlorinated Biphenyls, PCBs[4][9]		0.000064	0.000064		0.014
Pentachlorophenol	87865	0.27	3.0	19[6]	15[6]
Phenanthrene[5]	85018				
Phenol	108952	10,000	860,000		
Pyrene[5]	12900	830	4,000		
Selenium	7782492	170	4,200	[10]	5.0[8]
Silver	7440224			3.2[7]	
1,2,4-Trichlorobenzene	120821	35	70		
1,1,2,2-Tetrachloroethane[4]	79345	0.17	4.0		
Tetrachloroethylene[5]	127184	0.69	3.3		
Thallium	7440280	0.24	0.47		
Toluene	108883	1,300	15,000		
Toxaphene[4]	8001352	0.00028	0.00028	0.73	0.0002

SOUTH DAKOTA SURFACE WATER QUALITY STANDARDS[1] FOR TOXIC POLLUTANTS - ARSD 74:51:01					
Pollutant	CAS Number	Human Health Value Concentrations in µg/L		Freshwater Aquatic Life Value Concentrations in µg/L Uses 2-3-4-5-6-9	
		Use 1[2]	Uses 2-3-4-5-6-9[3]	Acute (CMC)	Chronic (CCC)
1,2-Trans-Dichloroethylene	156605	140	10,000		
1,1,1-Trichloroethane	71556				
1,1,2-Trichloroethane[4]	79005	0.59	16		
Trichloroethylene[4]	79016	2.5	30		
2,4,6-Trichlorophenol[4]	88062	1.4	2.4		
Vinyl Chloride[4]	75014	0.025	2.4		
Zinc	7440666	7,400	26,000	120[7]	120[7]

SOUTH DAKOTA
Surface Water Quality Standards[1]
for Toxic Pollutants

[1] The aquatic life values for arsenic, cadmium, chromium (III), chromium (VI), copper, lead, mercury (acute), nickel, selenium, silver and zinc given in this document refer to the dissolved amount of each substance unless otherwise noted. All surface water discharge permit effluent limits for metals shall be expressed and measured in accordance with § 74:52:03:16.

[2] Based on two routes of exposure - ingestion of contaminated aquatic organisms and drinking water.

[3] Based on one route of exposure - ingestion of contaminated aquatic organisms only.

[4] Substance classified as a carcinogen with the value based on an incremental risk of one additional instance of cancer in one million persons (10^{-6}).

[5] Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the criteria derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending.

[6] pH-dependent criteria. Value given is an example only and is based on a pH of 7.8. Criteria for each case must be calculated using the following equation taken from National Recommended Water Quality Criteria: 2002 (EPA-822-R-02-047, November 2002):

Pentachlorophenol (PCP), ug/L

Chronic = $\mathbf{e}^{[1.005(pH) - 5.134]}$ Acute = $\mathbf{e}^{[1.005(pH) - 4.869]}$

[7] Hardness-dependent criteria in ug/L. Value given is an example only and is based on a $CaCO_3$ hardness of 100 mg/L. Criteria for each case must be calculated using the following equations taken from

National Recommended Water Quality Criteria:
http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm#hhtable, June 2013:

Cadmium, ug/L
Chronic = (*0.909)**e**(0.7409[ln(hardness)]-4.719) Acute=(*0.944)**e**(1.0166[ln(hardness)]-3.924)

*Conversion factors are hardness-dependent. The values shown are with a hardness of 100 mg/L as calcium carbonate ($CaCO_3$). Conversion factors (CF) for any hardness can be calculated using the following equations:

Chronic: CF = 1.101672 - [(ln hardness)(0.041838)]
Acute: CF = 1.136672 - [(ln hardness)(0.041838)]

Chromium (III), ug/L
Chronic = (0.860)**e**(0.8190[ln(hardness)]+0.6848) Acute=(0.316)**e**(0.8190[ln(hardness)]+3.7256)

Copper, ug/L
Chronic = (0.960)**e**(0.8545[1n(hardness)]-1.702) Acute=(0.960)**e**(0.9422[ln(hardness)]-1.700)

Lead, ug/L
Chronic = (*0.791)**e**(1.273[ln(hardness)]-4.705) Acute=(*0.791)**e**(1.273[ln(hardness)]-1.460)

*Conversion factors are hardness-dependent. The values shown are with a hardness of 100 mg/L as calcium carbonate ($CaCO_3$). Conversion factors (CF) for any hardness can be calculated using the following equations:

Acute and Chronic: CF = 1.46203 - [(ln hardness)(0.145712)]

Nickel, ug/L
Chronic = (0.997)**e**(0.8460[ln(hardness)]+0.0584) Acute=(0.998)**e**(0.8460[ln(hardness)]+2.255)

Silver, ug/L

Acute = (0.85)**e**(1.72[ln(hardness)]-6.59)

Zinc, ug/L
Chronic = (0.986)**e**(0.8473[ln(hardness)]+0.884) Acute=(0.978)**e**(0.8473[ln(hardness)]+0.884)

(8) These criteria are based on the total-recoverable fraction of the metal.

(9) This criterion applies to total pcbs, (e.g. the sum of congener or all isomer or homolog or Aroclor analyses).

(10) The (0.996)CMC = 1/[fl/CMC1) + (f2/CMC2)] where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC1 and CMC2 are 185.9 Φg/L and 12.82 Φg/L, respectively.

(11) This criterion for arsenic refers to the inorganic form only.