

# Chapter 173-481 WAC

## AMBIENT AIR QUALITY AND ENVIRONMENTAL STANDARDS FOR FLUORIDES

(Formerly chapter 18-48 WAC)

### WAC

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**WAC 173-481-010 Purpose.** This chapter promulgated under RCW 70.94.305 and 70.94.331 establishes fluoride standards for the protection of livestock and vegetation. Standards address the fluoride content of forage and gaseous fluorides in the ambient air.

[Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-010, filed 9/16/87.]

**WAC 173-481-020 Applicability.** The forage provisions of this chapter apply to all areas where livestock are grazed, and where forage is grown for livestock feed. The ambient action levels apply to areas where fluoride sensitive vegetation is grown for commercial purposes and in public land use areas, such as parks, where fluoride damage to vegetation would adversely impact the use and enjoyment of the area. The ambient action levels are independent of the forage standards and are not designed to relate to potential concentrations in forage.

[Statutory Authority: RCW 70.94.395 and 70.94.331. 05-17-169 (Order 05-07), § 173-481-020, filed 8/23/05, effective 9/23/05. Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-020, filed 9/16/87.]

**WAC 173-481-030 Definitions.** The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

(1) "Fluorides" means compounds of the element of fluorine.

(2) "Forage" means grasses, pasture and other vegetation that is consumed or is intended to be consumed by livestock.

(3) "Growing season" means April 1 to September 30 unless a different period is specified by the department by an order.

(4) "Injury" means any fluoride induced measurable change in a plant that is metabolic, visual, or physiological such as alterations in the assimilation rate of plant constituents, leaf necrosis, leaf or fruit abscission, or reduced or altered growth.

(5) "Damage" means any fluoride induced injury to a plant that causes economic loss, or would adversely impact the use and enjoyment of public land use areas.

(8/23/05)

(6) "Public land use area" means land belonging to the community as a whole and administered through its representatives in government, and within which fluoride sensitive vegetation is important to the purpose of the land use such as parks, national forests, etc.

[Statutory Authority: RCW 70.94.395 and 70.94.331. 05-17-169 (Order 05-07), § 173-481-030, filed 8/23/05, effective 9/23/05. Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-030, filed 9/16/87.]

**WAC 173-481-100 Forage standards.** (1) All sampling to determine compliance with these standards shall be conducted in locations and during time periods consistent with protecting livestock.

(2) The fluoride content of forage calculated by dry weight shall not exceed:

(a) Forty parts per million fluoride ion (40 ppm F<sup>-</sup>) average for the growing season.

(b) Sixty parts per million fluoride ion (60 ppm F<sup>-</sup>) each month for more than two consecutive months during the growing season.

(c) Eighty parts per million fluoride ion (80 ppm F<sup>-</sup>) more than once in any two consecutive months during the growing season.

[Statutory Authority: RCW 70.94.395 and 70.94.331. 05-17-169 (Order 05-07), § 173-481-100, filed 8/23/05, effective 9/23/05. Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-100, filed 9/16/87.]

**WAC 173-481-110 Ambient action levels.** (1) All sampling to determine compliance with these action levels shall be conducted in locations and during time periods consistent with protecting vegetation of the type and in areas covered by this chapter.

(2) Gaseous fluorides in the ambient air calculated as HF at standard conditions shall not exceed:

(a) Two and nine-tenths micrograms per cubic meter (2.9 µg/m<sup>3</sup>) average for any nonoverlapping twenty-four consecutive hours;

(b) One and seven-tenths micrograms per cubic meter (1.7 µg/m<sup>3</sup>) average for any seven consecutive days;

(c) Eighty-four one-hundredths micrograms per cubic meter (0.84 µg/m<sup>3</sup>) average for any thirty consecutive days;

(d) Five-tenths micrograms per cubic meter (0.5 µg/m<sup>3</sup>) average for the growing season.

[Statutory Authority: RCW 70.94.395 and 70.94.331. 05-17-169 (Order 05-07), § 173-481-110, filed 8/23/05, effective 9/23/05. Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-110, filed 9/16/87.]

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**WAC 173-481-150 Corrective action.** (1) When requested by the department, persons emitting fluorides to the ambient air shall demonstrate their compliance with WAC 173-481-100 and 173-481-110 by conducting a monitoring program approved in writing by the department. Monitoring shall be required only in areas with forage or vegetation to be protected by this chapter. Monitored exceedances of the ambient action level shall not require corrective action or be considered violations of this chapter unless there is demonstrated related fluoride induced damage to vegetation protected by this chapter. If an ambient action level is exceeded, the persons emitting fluorides shall provide a plan for ecology approval for determining if damage has occurred. If damage is found the facility shall determine the cause of the damage and take corrective action approved by ecology to prevent further damage. When evaluating corrective action, work practices shall be considered before considering additional controls.

(2) Concurrent violations of the action levels found in WAC 173-481-100 and 173-481-110 shall not contain overlapping time periods for any one standard or action level.

[Statutory Authority: RCW 70.94.395 and 70.94.331. 05-17-169 (Order 05-07), § 173-481-150, filed 8/23/05, effective 9/23/05. Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-150, filed 9/16/87.]

**WAC 173-481-160 Sampling and analysis.** Sampling and analysis shall be in accordance with techniques approved by and on file with the department. Other sampling and methods of analysis which are equivalent in accuracy, sensitivity, reproducibility and applicability under similar conditions may be used after approval by the department.

[Statutory Authority: Chapter 70.94 RCW. 87-19-073 (Order 87-21), § 173-481-160, filed 9/16/87.]