

**INSTRUCTIONS FOR COMPLETING THE FLUORIDE
ADJUSTMENT MONTHLY OPERATION REPORT (MOR)
EPA FORM 5011 (5/04)**

GENERAL

Each public water system that adds a fluoride compound to their drinking water will keep a daily record of the amount of fluoride compound added, the quantity of water fluoridated, the calculated fluoride dosage, and the fluoride content of the water as delivered to their customers. The water system will at least once each month, or as required to identify significant changes, analyze the water just prior to fluoridation to determine the natural fluoride content of the water prior to adjustment. All fluoride analyses must be conducted in a laboratory certified by the Ohio EPA for the conduct of fluoride analyses. Finished water samples will be collected "daily" based upon a seven (7) day week. Samples collected on regular week days will be analyzed as soon as possible on the day collected. Those samples collected on weekends and holidays may, if necessary, be analyzed as soon as possible on the next regular working day. However, all fluoride samples will be analyzed within 48 hours of the time of collection.

NOTE: The results of the monthly proficiency test sample(s) are to be recorded in your laboratory calibration log.

GUIDELINES

Public water systems that lose their capability to accurately determine the fluoride content of their drinking water due to laboratory equipment failure or malfunction, etc. will cease feeding all fluoride compounds and notify the Ohio EPA within 48 hours and provide a tentative schedule for re-establishing laboratory control.

Public water systems feeding a fluoride compound that find that the total fluoride content of drinking water as measured at the plant tap or in the distribution system in excess of 1.3 milligrams per liter, or is less than 0.8 milligrams per liter, will notify the Ohio EPA within 48 hours and advise of the corrective actions that have been taken.

Public water systems that lose their capability to feed supplemental fluoride due to equipment failure or chemical shortages will notify the Ohio EPA within 48 hours and provide a tentative schedule for the resumption of supplemental fluoridation.

1. PUBLIC WATER SYSTEM INFORMATION

Print or type name of public water system (PWS) and name of source treatment unit (STU).

Enter the PWS ID number and the STU ID number.

2. LABORATORY INFORMATION

Enter month and year being reported.

Enter the name and ID number of the laboratory that analyzed the sample(s).

Place an X in the appropriate box that denotes the type of fluoride compound applied.

If Hydrofluosilicic Acid is applied: enter the percent strength as received from your supplier; if diluted, place an X in the appropriate box and enter the ratio of pounds of acid to pounds of water.

3. ANALYTICAL INFORMATION

*For the purpose of this report, any analytical values obtained that are lower than your method detection limit should be reported at the detection limit value (i.e., < 0.1 would be reported as 0.1)

- (a) Split Sample - place an X in the box if a proficiency test sample was also analyzed (formerly a split sample).
- (b) Treated Water - enter each day's quantity of Water Treated (fluoridated) in millions of gallons per day (MGD) to 3 decimal places.
- (c) Fluoride Compound Applied - enter each day's Quantity of fluoride compound applied to the nearest tenth of a gallon or nearest pound. Place an X in the appropriate box at the top of the column to indicate the units used in reporting the amount of fluoride compound used.
- (d) Calculated Fluoride Dosage - enter the Calculated Fluoride Dosage in milligrams per liter (mg/l) to two decimal places.

For Sodium Fluoride: (Gallons saturated solution multiplied by .018) divided by (MGD water treated) = mg/l fluoride.

For Sodium Silicofluoride: (Pounds of Sodium Silicofluoride) divided by (MGD water treated multiplied by 13.95) = mg/l fluoride.

For Hydrofluosilicic Acid: (Pounds of Hydrofluosilicic Acid used multiplied by the percentage multiplier (percent of hydrofluosilicic from supplier)) divided by (MGD water treated multiplied by 10.56) = mg/l fluoride. If the acid is diluted, the percentage multiplier becomes the percent of hydrofluosilicic from supplier multiplied by the dilution factor (pounds of acid divided by (pounds of acid plus pounds of water)).

- (e) RAW - enter the result of the fluoride analysis of the water just prior to the application of the fluoride compound, in milligrams per liter (mg/l) to two decimal places. If more than one raw sample is collected and analyzed for fluoride in a day, enter the average of the raw fluoride analyses for the day.

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- (f) PLANT TAP - enter the result of the daily fluoride analysis of the fluoridated water collected at the plant tap in milligrams per liter (mg/l) to two decimal places. If more than one plant tap sample is collected and analyzed for fluoride in a day, enter the average of the plant tap fluoride analyses for the day.
 - (g) DISTRIBUTION - enter the result of the daily fluoride analysis of the fluoridated water collected from the distribution system in milligrams per liter (mg/l) to two decimal places. If more than one distribution sample is collected and analyzed for fluoride in a day, enter the average for the distribution fluoride analyses for the day.
 - (h) TOTAL - enter the total value of all samples for each column.
 - (i) MAX. - enter the maximum value of all samples for each column.
 - (j) MIN. - enter the minimum value of all samples for each column.
 - (k) AVG. - enter the average value of all samples for each column.
4. Name and Certification Number of Operator in Charge, the signature of the responsible official, and the date the report is completed.
5. Return completed report to your district office no later than 10 days after the end of the month you are reporting.

OPERATOR NOTES

The theoretical fluoride level in the drinking water on a given day is equal to the calculated dosage on that date plus the laboratory analysis of the water prior to fluoridation. The resulting value should agree with the Plant Tap laboratory analysis on that date. The theoretical and plant tap fluoride concentrations should agree within 0.15 mg/l.

Ohio Revised Code 6109.20 states that "If the natural fluoride content of supplied water . . . is less than eight-tenths milligrams per liter of water, fluoride shall be added . . . to maintain fluoride content of not less than eight-tenths milligrams per liter of water nor more than one and three-tenths milligrams per liter of water . . ." for public water systems serving 5000 or more persons, unless exempted. For public water systems that add fluoride, but are not required to do so by ORC 6109.20, the Ohio EPA recommends that these systems maintain the 0.8 to 1.3 mg/L fluoride range.

Ohio Administrative Code (OAC) 3745-81-11 sets the primary maximum contaminant level (MCL) for fluoride at 4.0 mg/L and OAC 3745-82-02 sets the secondary MCL for fluoride at 2.0 mg/L. For systems that exceed these standards (based on a running annual average), public notification may be required. A no use advisory may be required for over-feed events that result in fluoride concentrations greater than 10 mg/L.