Notes:
- Use the following formulas to calculate the **Calculated Fluoride Ion Dosage** in Section III of Form A of the Mass DPH fluoridation report.
- The natural fluoride level for Massachusetts of 0.1 ppm is incorporated into all calculated dosage formulas below.
- Million Gallons (MG) must be expressed in decimal form. *Ex. 1,000,000 would be entered as 1.0; 500,000 would be 0.5.*

A. Calculations of Daily Dosage

1. a) If using a **Saturator**- using gallons of makeup water (saturated solution) added each day.

   \[
   \text{Calculated dosage (ppm)} = \frac{\text{Gallons of makeup water added each day}}{\text{Water treated each day (MG) X 50}}
   \]

   b) If using a **Saturator**- using cubic feet of makeup water added each day.

   \[
   \text{Calculated dosage (ppm)} = \frac{\text{Cubic feet of makeup water added each day}}{\text{Water treated each day (MG) X 6.7}}
   \]

2. a) If using **Hydrofluosilicic acid**- using pounds added each day.

   \[
   \text{Calculated dosage (ppm)} = \frac{\text{Pounds of acid added each day}}{\text{Water treated each day (MG) X C4*}}
   \]

   *For C4 values use the following table:

<table>
<thead>
<tr>
<th>Commercial purity of H2SiF6 in %</th>
<th>C4</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>43.1</td>
</tr>
<tr>
<td>23</td>
<td>41.2</td>
</tr>
<tr>
<td>24</td>
<td>39.5</td>
</tr>
<tr>
<td>25</td>
<td>37.8</td>
</tr>
<tr>
<td>26</td>
<td>36.5</td>
</tr>
<tr>
<td>27</td>
<td>35.1</td>
</tr>
<tr>
<td>28</td>
<td>33.9</td>
</tr>
<tr>
<td>29</td>
<td>32.7</td>
</tr>
<tr>
<td>30</td>
<td>31.7</td>
</tr>
</tbody>
</table>

3. a) If using a **Dry Feeder**- using pounds of sodium Silicofluoride added each day.

   \[
   \text{Calculated dosage (ppm)} = \frac{\text{Pounds of Silicofluoride added each day}}{\text{Water treated each day (MG) X 12.4}}
   \]

B. Only For systems using a Saturator - **Calculation of monthly dosage** **

1. a) If using a **Saturator**- using pounds of sodium fluoride added each month

   \[
   \text{Calculated dosage (ppm)} = \frac{\text{Pounds of Sodium Fluoride added each month}}{\text{Water treated each month (MG) X 16.9}}
   \]

** If you have any questions on the monthly dosage calculation see the MA State **Recommended Standard Operating Procedures for Sodium Fluoride (NaF) Saturators** on the following websites: DPH Office of Oral Health [http://www.mass.gov/dph/fch/oooh.htm](http://www.mass.gov/dph/fch/oooh.htm) or Mass DEP/DWP [http://www.mass.gov/dep/water/](http://www.mass.gov/dep/water/) or contact DPH at Oral.Health@state.ma.us.