



## MANUFACTURING

# CON-SERV MFG – Units of Concentration / Conversions / and Water Hardness Classifications

## Units of Concentration

<u>Unit</u>	<u>Abbreviation</u>	<u>Describes</u>
milligrams per liter	mg/L	(weight per volume)
parts per million	ppm	(weight in weight)
parts per billion	ppb	(weight in weight)
parts per trillion	ppt	(weight in weight)
grains per gallon	gpg	(weight per volume)
milli-equivalents per liter	m eq/L	(weight per volume)

## Conversions

$\text{mg/L} / 17.1 = \text{gpg}$   
 $\text{ppm} / 17.1 = \text{gpg}$   
 $\text{gpg} \times 17.1 = \text{ppm or mg/L}$   
 $\text{mg/L (expressed as CaCO}_3) \times 50 = \text{m eq/L}$   
 $\text{ppm} \times 1000 = \text{ppb}$   
 $\text{ppb} \times 1000 = \text{ppt}$

Understanding the relationships of units of concentration

## Water Hardness Classifications

<u>Hardness Level</u>		<u>Classification</u>
<u>mg/L</u>	<u>gpg</u>	
0-17	<1	soft water
17-60	1-3.5	slightly hard water
60-120	3.5-7.0	moderately hard water
120-180	7.0-10.5	hard water
>180	>10.5	very hard water