

(From: Igor Shik-lo-manov's chapter "Worlds fresh water resources" in Peter H. Gleick (editor), 1993, *Water in Crisis: A guide to the world's Fresh water resources*)
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$$\begin{aligned} V, \text{MG} \times &= \\ 8.34 \text{lbs/gal} \times & \\ \text{mg/L} & \\ = & \\ \text{mg/L} & \\ \frac{\ln - \text{Out}}{\ln} \times 100 = & \% \text{efficiency} \\ \frac{\text{OutputHorsepower}}{\text{InputHorsepower}} \times & \\ \frac{100}{\%} = & \end{aligned}$$

1,000,000
 0.12MGD
 40,000gpd
 0.04MGD
 1,000,000
 250gpm
 $250\text{gpm} \times$
 $1440\text{min/day} =$
 360,000gpd
 $360,000\text{gpd} \div$
 1,000,000 =
 0.36MGD
 mg/L
 mg/L
 26mg/L
 2.5MGD
 lbs/day =
 MGD \times
 8.34, lbs/gal \times
 Conc, mg/L
 lbs/day =
 2.5MGD \times
 8.34lbs/gal \times
 26mg/L
 lbs/
 =
 542
 /
 100%
 85,000gpd
 12mg/L
 360mg/L
 3.2
 320mg/L
 50mg/L
 67%
 8mg/L
 m
 s
 K
 L
 (3.281ft)
 0°K
 -273.15°C
 G 1,000,000,000
 M 1,000,000
 k
 h
 da
 d 0.1
 c 0.01
 m 0.001
 μ 0.000,001
 n 0.000,000,0001
 091172dbedc910e6e984560cg-
 54
 091172dbedc910e6e984560cg-
 55
 091172dbedc910e6e984560cg-
 56
 1000
 1/100
 1/1000
 $\frac{4,500\text{meters}}{1,000\text{meters/kilometers}} =$
 4.5
 4.6
 $\frac{4.6}{100}\text{cm} =$
 460cm
 0.001
 1L =
 1000mL
 $\frac{2,400\text{mL}}{1,000\text{mL/L}} =$
 2.4L
 0.35
 0.35LX1000mL/L =
 350mL
 $\frac{2,600\text{g}}{1,000\text{mg/g}} =$
 2.6g
 1,345,000g
 $\frac{1,345,000\text{g}}{1,000\text{g/kg}} = 1345\text{kg}$
 1g =
 1ml =
 1cc
 (m³) =
 1000
 1kg =
 1L

$$\begin{array}{l} 2^{nd} \\ 8.34\text{lbs/gal} = \\ \mathbf{35.86} \\ 3^{rd} \end{array}$$

$$230\text{lbs.} \div 35.86\text{Mlbs.} = \mathbf{6.41\text{mg/LDOSE}}$$

$$Dose, \text{mg/L} = \frac{\text{Chemical, lbs.}}{\text{Mlbs}} Dose, \text{mg/L} = \frac{230\text{Chemical, lbs.}}{(4.3\text{Flow, MGD} \times 8.34\text{lbs/gal})} = \frac{230\text{lbs}}{35.86\text{Mlbs}} = \mathbf{6.41\text{mg/LDOSE}}$$

$$\begin{array}{l} 2.8 \\ 35\text{lbs./} \\ \text{mg/L} \\ 10.7 \\ 161\text{lbs} \\ \text{mg/L} \\ 1.2\text{MGD} \\ 15\text{lbs} \\ \text{mg/L} \\ 5.9\text{MGD} \\ 64\text{lbs} \\ \text{mg/L} \\ 0.65 \\ 100\% \\ 09160c6b804a9b26a8df4e8fg- \\ 08 \\ 09160c6b804a9b26a8df4e8fg- \\ 08(1) \\ 0.5\text{MGD} \\ 10\text{lbs/} \\ \text{HTH/} \\ \text{mg/L} \\ 1^{st} \\ 2^{nd} \\ 10\text{lbs} \\ \text{HTH} \\ 10\text{lbs} \\ \text{HTH} \\ 65\% \\ 0.65 \\ 10\text{lbs} \\ 0.65 = \\ 6.5\text{lbs} \\ 3^{rd} \\ 0.5\text{MGD} \times \\ 8.34\text{lbs/gal} = \\ 4.17\text{Mlbs} \\ 4^{th} \\ \text{mg/L} \\ 6.5\text{lbs/} \\ \div 4.17\text{Mlbs} = \\ \mathbf{1.56\text{mg/L}} \\ 100\% \\ \% \end{array}$$

$$Dose, \text{mg/L} = \frac{\text{Chemical, lbs.}}{\text{Flow, Mlbs.}} Dose, \text{mg/L} = \frac{\text{Chemical, lbs.} \times 0.65}{\text{Flow, Mlbs.}} Dose, \text{mg/L} = \frac{\text{Chemical, lbs.} \times 0.65}{(\text{Flow, MGD} \times 8.34\text{lbs/gal})}$$

$$\begin{array}{l} \text{mg/L} = \\ \frac{10\text{Chemical, lbs.} \times 0.65}{(0.5\text{Flow, MGD} \times 8.34\text{lbs/gal})} = \\ \frac{6.5\text{lbs}}{4.17\text{Mlbs}} = \\ \mathbf{1.56\text{mg/L}} \\ 2.8\text{MGD} \\ 27\text{lbs./} \\ \text{HTH} \\ \text{mg/L} \\ 250\text{gpm} \\ 7.5\text{lbs} \\ \text{HTH} \\ \text{mg/L} \\ 100\% \\ 100\% \\ 09160c6b804a9b26a8df4e8fg- \\ 10 \\ 4.3\text{MGD} \\ 2.4\text{mg/L} \\ 1^{st} \\ 2^{nd} \\ 4.3\text{MGD} \times 8.34\text{lbs/gal} \times 2.4\text{mg/L} = \mathbf{86.07\text{lbs/day}} \\ \text{now writethisintheuppersectionofthepie.} \end{array}$$

$$\begin{array}{l} 100\% \\ (\\ x \\) \end{array}$$

$$\text{Chemical Feed, lbs} = (\text{Dose, mg/L} \times 8.34\text{lbs/gal} \times \text{Flow, MGD}) \text{Chemical Feed, lbs} = (2.4\text{mg/L} \times 8.34\text{lbs/gal} \times 4.3\text{MGD})$$