onBalance Simplified Formulas for Chemical Additions to Pools

Lowering Total Alkalinity with Muriatic Acid:
(Volume ÷ 125,000) x ___ ppm desired change = ___ quarts

Lowering Total Alkalinity with Sodium Bisulfate:
(Volume ÷ 47,000) x ___ ppm desired change = ___ pounds

Raising Total Alkalinity with Sodium Bicarbonate:
(Volume ÷ 71,400) x ___ ppm desired change = ___ pounds

Raising Total Alkalinity with Sodium Carbonate:
(Volume ÷ 113,200) x ___ ppm desired change = ___ pounds

Raising Total Alkalinity with Sodium Sesquicarbonate:
(Volume ÷ 80,000) x ___ ppm desired change = ___ pounds

Chlorine Gas: (Volume ÷ 120,000) x ___ ppm desired change = ___ pounds

Sodium Hypochlorite: (Volume ÷ 30,000) x ___ ppm desired change = ___ quarts
(Based on 10%/weight – this can vary slightly based on the strength and age of the product, but is a usable approximation)

Calcium Hypochlorite: (Volume ÷ 78,000) x ___ ppm desired change = ___ pounds
(Based on 65% av Cl)

Lithium Hypochlorite: (Volume ÷ 42,000) x ___ ppm desired change = ___ pounds

Trichlor: (Volume ÷ 108,000) x ___ ppm desired change = ___ pounds

Dichlor (56% av Cl): (Volume ÷ 67,200) x ___ ppm desired change = ___ pounds

Dichlor (62% av Cl): (Volume ÷ 74,400) x ___ ppm desired change = ___ pounds

Sodium Sulfite: (Volume ÷ 67,250) x ___ ppm unwanted chlorine = ___ pounds
(Amount in pounds to reduce excess chlorine)

Sodium Thiosulfate: (Volume ÷ 117,600) x ___ ppm unwanted chlorine = ___ pounds
(Amount in pounds to reduce excess chlorine – based on 100% sodium thiosulfate pentahydrate)

Calcium Chloride: (Volume ÷ 83,300) x ___ ppm desired increase = ___ pounds
(Amount in pounds to increase calcium hardness with 77% calcium chloride strength – use 101,700 as divisor for 94% strength)

Cyanuric Acid: (Volume ÷ 120,000) x ___ ppm desired change = ___ pounds
(Amount in pounds to increase cyanuric acid – based on 100% cyanuric acid strength)

Borax: (Volume ÷ 17,800) x ___ ppm boron = ___ pounds
(Amount in pounds to increase ppm of boron using 5 mol borax, or sodium tetraborate pentahydrate – $Na_2B_4O_7 \cdot 5H_2O$)

PHMB: (Volume ÷ 250,000) x ___ ppm PHMB = ___ quarts
(Amount in pounds to increase ppm of PHMB – using standard 20% polyhexamethylene biguanide)