# Swimming Pool Chlorine Dose

Pool volume and the amount of chlorine product (liquid hypochlorite, calcium hypochlorite or trichlor) to raise free chlorine by a chosen amount.

**Method:** Volume and available-chlorine arithmetic

## Input parameters

Unit system: SI

| Parameter | Value | Unit |
|---|---|---|
| Pool length | 10.000 | m |
| Pool width | 5.0000 | m |
| Average depth | 1.5000 | m |
| Rise in free chlorine wanted | 3.0000 | mg/L |
| Available chlorine in the product | 12.500 | % |
| Product density (liquids) | 1,200.0 | kg/m³ |

## Calculated results

| Parameter | Value | Unit |
|---|---|---|
| Pool volume | 75.000 | m³ |
| Chlorine needed | 225.00 | g |
| Product mass | 1.8000 | kg |
| Product volume (liquids) | 1.5000 | L |

**Notes for this case**

• Raising free chlorine by Δc needs Δc × V of available chlorine; divide by the product's strength: liquid sodium hypochlorite 10–15 %, calcium hypochlorite 65–70 %, trichlor 90 %, dichlor 56–62 %. Pools are usually kept at 1–3 mg/L free chlorine, with superchlorination to about 10 mg/L for shock treatment. Sunlight destroys unstabilised chlorine quickly; cyanuric acid slows that. Add chemicals to the circulating water, never mix products.

## Formula and method

$$V = LW\bar{d}, \quad m_{Cl} = \Delta c\, V, \quad m_p = \frac{m_{Cl}}{s}$$

### Variables

| | | |
|---|---|---|
| $L$ | Pool length | m |
| $W$ | Pool width | m |
| $\bar{d}$ | Average depth | m |
| $\Delta c$ | Rise in free chlorine wanted | kg/m³ |
| $s$ | Available chlorine in the product | - |
| $\rho$ | Product density (liquids) | kg/m³ |
| $V$ | Pool volume | m³ |
| $m_{Cl}$ | Chlorine needed | kg |
| $m_p$ | Product mass | kg |
| $V_p$ | Product volume (liquids) | m³ |

### Method and standards

Pool chlorine.

### Assumptions and limits

- Even mixing; no chlorine demand.

### References

Volume and available-chlorine arithmetic

## Report details

| | |
|---|---|
| Report reference | FCC-3MAB-85Z8 (the same inputs always give the same reference) |
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| Calculator | Swimming Pool Chlorine Dose |
| Method last reviewed | 17 November 2026 |
| Software release | FireCAD Calc, release of 22 November 2026 |
| Release checks | 3 reference cases of this calculator, computed independently, are checked on every release |

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

### This calculator online

https://calc.firecad.com/environmental/drinking-water/pool-chlorine-dose

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.