Percentage, ppm, ppb and Per Mille Converter

Convert a fraction between per cent, per mille, parts per million (ppm) and parts per billion (ppb), as used for concentrations, moisture and impurities.

Method: Definitions: 1 % = 10^4 ppm = 10^7 ppb

Input parameters

Unit system: SI

Parameter	Value	Unit
Value given as	ppm	
Value	250.00	

Calculated results

Parameter	Value	Unit
Fraction	2.5000e-04	
Per cent	0.025000	
Per mille	0.25000	
Parts per million	250.00	
Parts per billion	250,000	

Notes for this case

- Say whether ppm is by mass, by volume or by moles; the number alone does not.

Formula and method

$$1\,\% = 10^4\,\mathrm{ppm} = 10^7\,\mathrm{ppb}$$

Variables

given	Value given as	-
x	Value	-
$\%$	Per cent	-
$‰$	Per mille	-
ppm	Parts per million	-
ppb	Parts per billion	-

Method and standards

Definitions.

Assumptions and limits

- Short-scale billion.

References

- Definitions: 1 % = 10^4 ppm = 10^7 ppb

Report details

Report reference	FCC-4CNP-4A8A (the same inputs always give the same reference)
Generated	17 November 2026, 19:48 UTC
Calculator	Percentage, ppm, ppb and Per Mille Converter
Method last reviewed	12 November 2026
Software release	FireCAD Calc, release of 17 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/general/unit-conversions/percentage-ppm-converter

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.