Bulk Litres and Absolute Litres of Alcohol

Absolute litres of alcohol from bulk litres and strength (% v/v at 20 °C), or the bulk litres that hold a quantity of absolute alcohol.

Method: Definition: AL = BL × alcoholic strength by volume (OIML R 22, 20 °C)

Input parameters

Unit system: SI

Parameter	Value	Unit
Bulk litres at 20 °C	100.00	L
Strength (% v/v at 20 °C)	94.400	%
Absolute litres required	1.0000	L

Calculated results

Parameter	Value	Unit
Absolute litres in the bulk	94.400	L
Bulk litres holding the required absolute litres	1.0593	L

Formula and method

$$AL = BL \cdot s, \quad BL_r = \frac{AL_t}{s}$$

Variables

BL	Bulk litres at 20 °C	m³
S	Strength (% v/v at 20 °C)	-
AL_t	Absolute litres required	m³
AL	Absolute litres in the bulk	m³
BL_r	Bulk litres holding the required absolute litres	m³

Method and standards

Definitions.

Assumptions and limits

- Strength and bulk volume both at 20 °C. A tank volume at another temperature must be corrected first (strong spirit expands about 0.1 % per °C): see the OIML steel-tank volume calculator.

References

- Definition: AL = BL × alcoholic strength by volume (OIML R 22, 20 °C)

Report details

Report reference	FCC-Y133-5CS4 (the same inputs always give the same reference)
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Calculator	Bulk Litres and Absolute Litres of Alcohol
Method last reviewed	13 November 2026
Software release	FireCAD Calc, release of 17 November 2026
Release checks	2 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/sugar-ethanol/alcoholometry/bulk-absolute-litres

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.