

WHAT COMES OUT OF THE TAP

pH 7.7 · alkalinity 48 as CaCO₃

WHAT IT MEANS FOR BREWING

Dark and roasty beers are the easy case here, while pale lagers and blondes will need lactic acid or acidulated malt.

from a test kit or the supplier's report

brews.traineffect.co.nz

Salts for 23 L

Grams per batch, worked out from the tap figures opposite. The amounts assume dihydrate gypsum and calcium chloride, so use about a quarter less if yours is anhydrous. Epsom salt is left out on purpose because the malt supplies enough magnesium.

BY BEER STYLE

TARGET	GYPSUM G	CACL2 G	CA / SO4 / CL	SO4 : CL	RA
West Coast IPA, hoppy pale	7.2	2.1	116 / 181 / 60	3.0 : 1	15
Hoppy amber, NZ pale	4.7	3.3	105 / 120 / 85	1.4 : 1	18
Belgian, saison	2.8	2.8	80 / 74 / 75	1 : 1.0	25
Hazy, NEIPA	2.8	6.4	122 / 74 / 150	1 : 2.0	13
Malty, amber, dark	1.8	3.5	78 / 50 / 89	1 : 1.8	26
Pale lager, pilsner	1.0	2.0	52 / 31 / 58	1 : 1.9	33

RA is residual alkalinity as CaCO3 once the calcium is accounted for. A positive figure means a pale grist will run high on mash pH, so measure at ten minutes and add lactic acid 1 mL at a time, while darker grists bring enough acidity to look after themselves.

WHAT EACH SALT DOES			CLASSIC CITY PROFILES							ppm, for reference
SALT	RAISES	USE	CITY	CA	MG	NA	CL	SO4	HCO3	SUITS
Gypsum (CaSO4)	Calcium and sulfate	Hop-forward bitterness, dry finish	Pilsen	7	2	2	7	5	17	Pilsner, pale lagers, anything soft and delicate
Calcium chloride (CaCl2)	Calcium and chloride	Malt body and roundness	Munich	109	21	3	2	77	295	Dunkel, bock, Marzen, dark lagers
Epsom salt (MgSO4)	Magnesium and sulfate	Rarely needed; malt already supplies magnesium	Dortmund	230	23	69	130	330	235	Export, Kolsch, balanced pale lagers
Lactic acid (88%)	Nothing, lowers pH	Mash pH correction, 1 mL at a time, measure at 10 minutes	London	90	4	24	34	40	123	Bitter, mild, porter, brown ale
Table salt (NaCl)	Sodium and chloride	Perceived sweetness at low doses	Dublin	118	4	12	19	54	319	Dry stout, porter, roasty beers
Baking soda (NaHCO3)	Sodium and bicarbonate	Raising mash pH for very dark grists only	Burton on Trent	352	24	44	36	820	320	English IPA, ESB, pale ale

MY USUAL ADDITIONS

BEER	GYPSUM G	CACL2 G	ACID ML	MASH PH	LITRES