Bru'n Water

Per Nielsen

Batch Name: Birkevang Håndbryg - Kölsch (Brygladen)

Enter data into **Light Blue** cells, **Yellow** cells show calculated results, **Pink** cells contain Selection boxes

Water Profile Adjustment Calculator

Hover cursor over cells w/ red corner marks to display helpful information

		Calcium (ppm)	Magnesium (ppm)	Sodium (ppm)	Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)
Desired Water Profile							
Yellow Full		50	5	5	55	70	0
Existing Water Profile		76	19	25	12	39	323
Dilution Water Profile							
RO Water		1	0	8	1	4	16
Percent Dilution Water	75	750	mL/L	75	L/HL	< These conversions are provided for your convenience	
Diluted Water Profile		20	5	12	4	13	93
Target Finished Water Adjustment (ppm)		**30**	**0**	**-7**	**51**	**57**	**-93**
Actual Finished Water Adjustment (ppm)		**46**	**2**	**0**	**47**	**53**	**-91**
Mashing Water Profile		66	7	12	51	65	2
Overall Finished Water Profile		66	7	11	50	65	NA

Approximate Color Descriptors for Water Profiles

- Yellow: under 12 EBC
- Amber: 14 to 33 EBC
- Brown: 34 to 59 EBC
- Black: over 60 EBC

Batch Notes

Insert any notes for the batch or the calculation here.

Finished SO_4/Cl Ratio: 0,8

Estimated Mash pH 5,35 — This pH value is NOT VALID until the grain information is properly entered for the beer on the **Grain Bill Input** sheet.

Total Water Additions

Mash		Sparge		Total Batch Volume	
Water Volume (L)	14,00	Water Volume (L)	3,00	Water Volume (L)	10,00

Water Additions

Minerals	Addition (gram/L)	Calcium (ppm)	Magnesium (ppm)	Sodium (ppm)	Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)	Total Mineral Additions (grams)	Total Mineral Additions (grams)
Gypsum ($CaSO_4 \times 2H_2O$)	**0,07**	16,3			39,1			**0,98**	**0,21**
Calcium Chloride ($CaCl_2$)	**0,25**	29,8				52,7		**3,50**	**0,75**
Epsom Salt ($MgSO_4 \times 7H_2O$)	**0,02**		2,0		7,8			**0,28**	**0,06**
Magnesium Chloride ($MgCl_2 \times 6H_2O$)	**0,00**		0,0			0,0		**0,00**	**0,00**
Canning Salt (NaCl)	**0,00**			0,0		0,0		**0,00**	**0,00**
Baking Soda ($NaHCO_3$)	**0,00**			0,0			0,0	**0,00**	Not Recommended
Chalk ($CaCO_3$)	**0,00**	0,0					0,0	**0,00**	Not Recommended
Pickling Lime ($Ca(OH)_2$)	**0,00**	0,0					0,0	**0,00**	Not Recommended

Acids	Addition				Sulfate (ppm)	Chloride (ppm)	Bicarbonate (ppm)		
Mash	(mL/L)	**Mash** Acid Strength parameters are entered **below**						Total Acid Addition (ml)	
Lactic	**0,13**	Strength	88,0	**%**	0,0	0,0	-90,9	**1,82**	
	(mL/L)							Total Acid Addition (ml)	
Phosphoric	**0,00**	Strength	10,0	**%**	0,0	0,0	0,0	**0,00**	
Sparge		**Sparge** Acid Strength parameters are entered on the **Sparge Acidication** sheet							Total Acid Addition (ml)
Lactic		Strength	80,0	%	0,0	0,0			**0,32**
									Total Acid Addition (ml)
		Strength			0,0	0,0			**0,00**

Liquid	What form of $CaCl_2$?
33,0	Liquid $CaCl_2$ strength? (% w/w)
	Liquid $CaCl_2$ Solution Strength (% w/w) -->
No	Add Sparging Water mineral additions to the Mash?
No	Add Hardness Minerals to Kettle?
No	Add $CaSO_4$ & $CaCl_2$ to replace Chalk & Lime in Sparging Water?

Acid Anion Concentrations

138	**(ppm) Lactate added to water**
100	**(ppm) Lactate added to water**