

Munich Helles sMasH - 5.5%

Munich Helles

Author: Westburn Brewing

Type: All Grain

IBU : 18 (Tinseth)
BU/GU : 0.36
Colour : 6 EBC
Carbonation : 2.5 CO2-vol

Pre-Boil Gravity : 1.033
Original Gravity : 1.048
Total Gravity : 1.050
Final Gravity : 1.008

Fermentables (1.19 kg)

1.187 kg - Pilsner 3 EBC (100%)
28 g - Bottling - Sugar, Table (Sucrose) 2 EBC
^ Albert Heijn (NL)

Hops (8.5 g)

60 min - 4.8 g - Tettnang - 5.8% (14 IBU)
10 min - 3.7 g - Tettnang - 5.8% (4 IBU)

Miscellaneous

Mash - 0.1 g - Baking Soda (NaHCO3)
^ Lot # 41190621/3
^ Brouwstore (NL) 003.106.2
Mash - 2.6 g - Calcium Chloride (CaCl2) 33 % 33%
^ Lot # 115038
^ Brouwstore (NL) 055.035.0
Mash - 2.4 g - Canning Salt (NaCl)
^ Albert Heijn (NL)
Mash - 0.6 g - Epsom Salt (MgSO4)
^ Lot # /2119000091
^ Brouwstore (NL) 055.027.7
Mash - 0.7 g - Gypsum (CaSO4)
^ The Malt Miller (UK) CHE-03-004
Mash - 1.5 ml - Lactic Acid 80% 80%
^ Lot # 20200213
^ Brouwstore (NL) 003.002.3

Yeast

1 pkg - Fermentis Saflager Lager W-34/70

01 Brouwpunt 5L (90min) (rev 4)

Batch Size : 5.6 L
Boil Size : 8.66 L
Post-Boil Vol : 5.96 L

Mash Water : 3.56 L
Sparge Water : 6.36 L
Boil Time : 90 min
Total Water : 9.92 L



6 EBC

Brewhouse Efficiency: 71.8%

Mash Efficiency: 73.3%

Mash Profile

Munich Helles Step Mash

37 °C - Strike Temp
35 °C - 0 min - Dough In
52 °C - 30 min - Protein Rest Low
63 °C - 30 min - Beta Amalaysse
72 °C - 30 min - Alpha Amalaysse
78 °C - 10 min - Mashout

Fermentation Profile

Lager

8 °C - 0 days - Pitch
10 °C - 21 days - Free rise to 10c and hold
13 °C - 7 days - Diacetyl rest
2 °C - 3 days - Cold Crash
2 °C - 28 days - Conditioning
2 °C - 7 days - Carbonation

Water Profile

02 NL Spa Reine Flat Mineral Water (www.ah.nl...
Ca 21 Mg 4 Na 37 Cl 75 SO 26

SO/Cl ratio: 0.3

Mash pH: 5.39

Sparge pH: 6

Measurements

Mash pH:

Boil Volume:

Pre-Boil Gravity:

Post-Boil Kettle Volume:

Original Gravity:

Fermenter Top-Up:

Fermenter Volume:

Final Gravity:

Bottling Volume:

Munich Helles sMash

Recipe Notes

Avoid shitty Brewfather water calculations and use Brun Water

Water: RO water: all figures in PPM Calcium: 54, Magnesium: 5, Sodium: 5, Sulfate: 51, Chloride: 60, lactic acid. 3.4ml So4/CL ratio .08

Great video for making a lager water profile: <https://www.youtube.com/watch?v=5dNszuyjShQ>

Mash: 5.18pH, Dough in at 35C to make sure grains are mixed in properly before the first rest. You can avoid and mash in at 52c for the first rest

Boil: Boil long and at a high pH to avoid DMS, which Weyermann pilsner malt produces a lot of. Add your sparge salts 10 minutes to the end of the boil to bring it down to a pH of 5.2. Cool as quickly as possible

Fermentation:

Pitch low at 8c and let it free rise to 10c. Pitch big and aim for a 1.75million/ml pitch rate

Once near FG, let it free rise to 10 degrees

Near terminal gravity give it a diacetyl rest at 13c

Aiming for a final beer pH of 4.1-4.2

Lagered beer at 2c for 4 weeks to clean up the beer

Added Biofine to the keg prior to transfer

Carbonated at 2c for 7 days

Be patient with this beer and you will be rewarded!

Email me at long.oskar@gmail.com if you have any questions about this recipe!