

Hamburg Lager - 4.6%

German Pils

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Type: All Grain

IBU : 45 (Tinseth)
 BU/GU : 0.98
 Colour : 7 EBC
 Carbonation : 2.5 CO2-vol

Pre-Boil Gravity : 1.031
 Original Gravity : 1.046
 Final Gravity : 1.011

Fermentables (1.14 kg)

1.039 kg - Pilsner 2-Row 3.9 EBC (91.1%)
 101 g - Carapils 4 EBC (8.9%)
 ^ The Malt Miller (UK) MAL-01-016

Hops (22.8 g)

First Wort - 4.5 g - Tettnang - 4.5% (13 IBU)
 First Wort - 2.8 g - Hallertauer Mittelfrueh...
 90 min - 7 g - Tettnang - 4.5% (18 IBU)
 90 min - 2.3 g - Hallertauer Mittelfrueh - 3....
 10 min - 6.2 g - Hallertauer Mittelfrueh - 3....

Miscellaneous

Mash - 0.04 g - Baking Soda (NaHCO3)
 ^ Lot # 41190621/3
 ^ Brouwstore (NL) 003.106.2
 Mash - 0.86 g - Calcium Chloride (CaCl2) 33 %...
 ^ Lot # 115038
 ^ Brouwstore (NL) 055.035.0
 Mash - 0.84 g - Canning Salt (NaCl)
 ^ Albert Heijn (NL)
 Mash - 1 g - Epsom Salt (MgSO4)
 ^ Lot # /2119000091
 ^ Brouwstore (NL) 055.027.7
 Mash - 1 g - Gypsum (CaSO4)
 ^ The Malt Miller (UK) CHE-03-004
 Mash - 0.5 ml - Lactic Acid 80% 80%
 ^ Lot # 20200213
 ^ Brouwstore (NL) 003.002.3

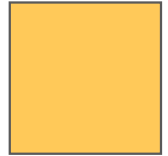
Yeast

1.1 pkg - Mangrove Jack's Bavarian Lager M76

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

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

Mash Water : 3.42 L
 Sparge Water : 6.45 L
 Boil Time : 90 min
 Total Water : 9.87 L



7 EBC

Brewhouse Efficiency: 71.8%
 Mash Efficiency: 73.3%

Mash Profile

01 One Step Mash (60 min)
 72.1 °C - Strike Temp
 66 °C - 95 min - Temperature

Fermentation Profile

01 Ale + DR + Conditioning
 18 °C - 10 days - Primary
 21 °C - 4 days - Diacetyl rest
 18 °C - 14 days - Carbonation
 18 °C - 28 days - Conditioning

Water Profile

02 NL Spa Reine Flat Mineral Water (www.ah.nl...
 Ca 39 Mg 12 Na 38 Cl 75 SO 100

SO/Cl ratio: 1.3
 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:

Recipe Notes

Target: ABV = 4.8 %, IBU = 45, EBC = 4, OG = 1.047, FG = 1.011.