0.5 pkg - Fermentis SafAle German Ale K-97

^ The Malt Miller (UK) YEA-02-035



AnOtter Altbier - 4.7%

01 Brouwpunt 5L (30min) (rev 4) Altbier Author: The Thirsty Otter Batch Size : 5.6 L Boil Size : 6.86 L Post-Boil Vol : 5.96 L Type: All Grain IBU Mash Water : 30 (Tinseth) : 3.6 L BU/GU : 0.67 Sparge Water : 4.53 L 20 EBC : 30 min Colour : 20 EBC Boil Time Carbonation : 2.4 CO2-vol Total Water : 8.13 L Pre-Boil Gravity : 1.039 Brewhouse Efficiency: 71.8% : 1.045 Original Gravity Mash Efficiency: 73.3% Final Gravity : 1.009 Mash Profile Fermentables (1.2 kg) Vienna Lager 54 °C - Strike Temp 600 g - Pils 3.5 EBC (50%) ^ Lot # 20210710 50 °C - 30 min - Protein Rest 66.7 °C - 45 min - Saccharification ^ Brouwmaatje (NL) 051.002.4 75.6 $^{\circ}\text{C}$ - 10 min - Mash Out 500 g - CaraVienna 50 EBC (41.7%) ^ The Malt Miller (UK) MAL-01-023 100 g - Wheat Malt 5.5 EBC (8.3%) Fermentation Profile ^ Lot # 20210909 01 Ale + DR + Conditioning 18 °C - 10 days - Primary ^ Brouwmaatje (NL) 21 °C - 4 days - Diacetyl rest 18 °C - 14 days - Carbonation Hops (30 g) 30 min - 10 g - Saaz - 3.6% (14 IBU) 18 °C - 28 days - Conditioning ^ Lot # T9020044SAA Water Profile ^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden... 02 NL Spa Reine Flat Mineral Water (www.ah.nl... 20 min - 10 g - Saaz - 3.6% (11 IBU) ^ Lot # T9020044SAA Ca 81 Mg 15 Na 50 Cl 75 SO 200 HCO 68 ^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden... 10 min - 10 g - Saaz - 3.6% (6 IBU) SO/Cl ratio: 2.7 ^ Lot # T9020044SAA Mash pH: 5.31 ^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden... Sparge pH: 6 Miscellaneous Measurements Mash - 0.58 g - Baking Soda (NaHCO3) ^ Lot # 41190621/3 Mash pH: ^ Brouwstore (NL) 003.106.2 Mash - 1.06 g - Calcium Chloride (CaCl2) 33 %... Boil Volume: ^ Lot # 115038 ^ Brouwstore (NL) 055.035.0 Pre-Boil Gravity: Mash - 0.57 g - Canning Salt (NaCl) Post-Boil Kettle Volume: ^ Albert Heijn (NL) Mash - 1.07 g - Epsom Salt (MgSO4) ^ Lot # /2119000091 Original Gravity: ^ Brouwstore (NL) 055.027.7 Mash - 2.11 g - Gypsum (CaSO4) Fermenter Top-Up: ^ The Malt Miller (UK) CHE-03-004 Mash - 0.3 ml - Lactic Acid 80% 80% Fermenter Volume: ^ Lot # 20200213 ^ Brouwstore (NL) 003.002.3 Final Gravity:

Bottling Volume: