198 Munich Helles KRA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **19**
- SRM **4.3**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **15 %**
- Size with trub loss **19.5 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **24.1 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16.6 liter(s)**
- Total mash volume **21.4 liter(s)**

Steps

- Temp **64 C**, Time **15 min**
- Temp **67 C**, Time **30 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **16.6 liter(s)** of strike water to **70.3C**
- Add grains
- Keep mash **15 min** at **64C**
- Keep mash **30 min** at **67C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.3 liter(s)** of **76C** water or to achieve **24.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pilzneński	4.2 kg *(88.4%)*	79 %	4
Grain	Strzegom Monachijski typ I	0.4 kg *(8.4%)*	79 %	16
Grain	Weyermann - Carapils	0.15 kg *(3.2%)*	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	9 g	40 min	15.5 %
Boil	Hallertau Mittelfruh	10 g	10 min	4.8 %
Boil	Hallertau Mittelfruh	20 g	5 min	4.8 %

Yeasts

Name	Type	Form	Amount	Laboratory
WLP830 - German Lager Yeast	Lager	Liquid	200 ml	White Labs

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.