

## Helles?

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- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **19**
- SRM **3.5**
- Style **Munich Helles**

### Batch size

- Expected quantity of finished beer **9 liter(s)**
- Trub loss **5 %**
- Size with trub loss **9.4 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **11.8 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **6.7 liter(s)**
- Total mash volume **8.6 liter(s)**

### Steps

- Temp **66 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **1 min**

### Mash step by step

- Heat up **6.7 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **66C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **7 liter(s)** of **76C** water or to achieve **11.8 liter(s)** of wort

### Fermentables

| Type  | Name                          | Amount         | Yield | EBC |
|-------|-------------------------------|----------------|-------|-----|
| Grain | Strzegom Pilzneński           | 1.7 kg (89.5%) | 80 %  | 4   |
| Grain | Weyermann - Light Munich Malt | 0.1 kg (5.3%)  | 82 %  | 14  |
| Grain | Weyermann - Acidulated Malt   | 0.1 kg (5.3%)  | 80 %  | 6   |

### Hops

| Use for             | Name                | Amount | Time   | Alpha acid |
|---------------------|---------------------|--------|--------|------------|
| Boil                | Hallertau Tradition | 12 g   | 60 min | 6.2 %      |
| Aroma (end of boil) | Hallertau Tradition | 10 g   | 0 min  | 6.2 %      |

### Yeasts

| Name                 | Type  | Form   | Amount | Laboratory |
|----------------------|-------|--------|--------|------------|
| wlp860 munich helles | Lager | Liquid | 100 ml | White Labs |