

# Munich Helles

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **18**
- SRM **3.8**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **26.7 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **24.3 liter(s)**
- Total mash volume **29.7 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **24.3 liter(s)** of strike water to **68.9C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **7.8 liter(s)** of **76C** water or to achieve **26.7 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount        | Yield | EBC |
|-------|---------------------|---------------|-------|-----|
| Grain | Viking Pilsner malt | 5.4 kg (100%) | 82 %  | 4   |

## Hops

| Use for             | Name                 | Amount | Time   | Alpha acid |
|---------------------|----------------------|--------|--------|------------|
| Boil                | Pałacowy             | 20 g   | 60 min | 8.5 %      |
| Aroma (end of boil) | Hallertau Mittelfruh | 60 g   | 0 min  | 3 %        |

## Yeasts

| Name             | Type  | Form | Amount | Laboratory |
|------------------|-------|------|--------|------------|
| Saflager W 34/70 | Lager | Dry  | 34.5 g | Fermentis  |