# munich pils

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **48**
- SRM **6.5**
- Style **Munich Helles**

## Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.9 liter(s)**
- Boil time **80 min**
- Evaporation rate **8 %/h**
- Boil size **23.8 liter(s)**

## Mash information

- Mash efficiency **96 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.4 liter(s)**
- Total mash volume **14.6 liter(s)**

## Steps

- Temp **51 C**, Time **15 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**

## Mash step by step

- Heat up **11.4 liter(s)** of strike water to **55.4C**
- Add grains
- Keep mash **15 min** at **51C**
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Sparge using **15.7 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

## Fermentables

| Type | Name | Amount | Yield | EBC |
|---|---|---|---|---|
| Grain | Weyermann - Bohemian Pilsner Malt | 2 kg *(61.5%)* | 81 % | 4 |
| Grain | Briess - Munich Malt 10L | 1 kg *(30.8%)* | 77 % | 16 |
| Grain | Słód Caramunich Typ II Weyermann | 0.25 kg *(7.7%)* | 73 % | 120 |

## Hops

| Use for | Name | Amount | Time | Alpha acid |
|---|---|---|---|---|
| Boil | Premiant | 10 g | 60 min | 9.9 % |
| Boil | Northern Brewer | 10 g | 60 min | 9.3 % |
| Boil | Premiant | 15 g | 20 min | 9.9 % |
| Boil | Northern Brewer | 15 g | 20 min | 9.3 % |
| Boil | Hersbrucker | 20 g | 10 min | 2.8 % |

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