

## ipa #4

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **90**
- SRM **4.4**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **24 liter(s)**

### Steps

- Temp **68 C**, Time **60 min**

### Mash step by step

- Heat up **18 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Sparge using **19.7 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Malteurop Pale Ale	6 kg (100%)	80 %	6

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	30 g	60 min	13.5 %
Boil	El Dorado	20 g	20 min	15 %
Boil	Simcoe	30 g	10 min	13.2 %
Boil	Amarillo	30 g	10 min	9.5 %
Boil	Columbus/Tomahawk/Zeus	30 g	10 min	15.5 %
Boil	El Dorado	30 g	1 min	15 %
Boil	Columbus/Tomahawk/Zeus	30 g	1 min	15.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale US-05	Ale	Dry	10 g	Fermentis