

## quick milkshake ipa [QMI]

- Gravity **10 BLG**
- ABV **4 %**
- IBU **12**
- SRM **3.3**

### Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **20 min**
- Evaporation rate **10 %/h**
- Boil size **24.9 liter(s)**

### Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **14 liter(s)**
- Total mash volume **18 liter(s)**

### Steps

- Temp **44 C**, Time **1 min**
- Temp **68 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **14 liter(s)** of strike water to **47.4C**
- Add grains
- Keep mash **1 min** at **44C**
- Keep mash **60 min** at **68C**
- Keep mash **1 min** at **78C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **24.9 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield  | EBC |
|-------|----------------------|----------------|--------|-----|
| Grain | Viking Pale Ale malt | 3.5 kg (77.8%) | 80 %   | 5   |
| Sugar | Milk Sugar (Lactose) | 0.5 kg (11.1%) | 76.1 % | 0   |
| Grain | Płatki owsiane       | 0.5 kg (11.1%) | 85 %   | 3   |

### Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Aroma (end of boil) | Columbus/Tomahawk/Zeus | 5 g    | 60 min | 14.4 %     |
| Aroma (end of boil) | Lublin (Lubelski)      | 40 g   | 5 min  | 4 %        |

### Yeasts

| Name         | Type | Form  | Amount | Laboratory |
|--------------|------|-------|--------|------------|
| Safale US-05 | Ale  | Slant | 200 ml | Fermentis  |

### Extras

| Type   | Name  | Amount | Use for   | Time     |
|--------|-------|--------|-----------|----------|
| Flavor | pulpa | 1750 g | Secondary | 5 day(s) |