

Beer name and/or description: **Hop Expedition**

IBU: 30 | Color (SRM): 4.3 | %ABV: 6.1

Move over, West Coast! Thanks to our Czech hop suppliers, we managed to get in hold of some new revolutionary Czech hop varieties: Saturn, Eris, Juno, and Gaia. This Czech brew bursts of citrus, spice, and pine - a taste of the future of European hops!

## Water

Mash Water	Temp.	50	°C	122	°F
			17.7	L	4.7
Sparge Water	Temp.	75	°C	167	°F
			19.6	L	5.2

## Malt

Malt/adjuncts	Weight		%
	Kg	Lbs	
Pilsen Malt	2.7	5.9	43
Pale Ale Malt	2.0	4.3	31
Wheat Malt	0.5	1.1	8
Dextrin Malt	0.5	1.1	8
Oat Flakes	0.7	1.5	11
<b>Total</b>	<b>6.4</b>	<b>13.9</b>	<b>101</b>

## Mash & Sparge

	Temperature		Time (min)
	°C	°F	
Mash Step 1	50	122	10
Mash Step 2	69	156	30
Mash Step 3	72	162	50
Mash Step 4	78	172	10

## NOTES

Other ingredients	Quantity	Units (L, g, etc)	Addition Point
Lactic acid	24	mL	Mash
Lactic acid	12	mL	Sparge

## Boil

Wort	SG	L	gal	pH
Pre-boil	1.054	26.1	6.9	
Post-boil	1.057	25.0	6.6	
<b>Total Boil Time</b>	<b>60</b>	<b>minutes</b>		

## Hops

Hop Variety	%AA	Weight		Kettle addition Boil Time (min)	Dry hopping Fermentation day
		g	oz		
No boil hops					
Saturn	6.2	98	3.5	WP 80°C	
Eris		49	1.7		9
Juno		98	3.5		9
Gaia		98	3.5		9
<b>Total</b>	<b>6.2</b>	<b>343</b>	<b>12.2</b>		

## Fermentation

Yeast Strain	LalBrew Pomona™			
Pitch Rate	0.52	g/L		g/gal
Temperature	18	°C	64	°F
	SG		Plato	
OG	1.059		14.5	
FG	1.013		3.2	
Attenuation	77.9	%		

Target water profile: Sulfate (SO4) - 56ppm, Chloride (Cl) - 150ppm, Calcium (Ca) - 85ppm, Magnesium (Mg) - 13ppm, Sodium (Na) - 18ppm, Bicarbonate (CO3) - 45ppm,

No boil hop additions. Cool wort to 80°C prior to adding whirlpool hops. Cool to 15°C for dry hopping around day 9 of fermentation and hold for 3 days before cold crash.