

## Instructions for Balancing ECOWASH

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With the ECOWASH balancing kit, keeping your ECOWASH in perfect balance is simple and quick



**Safety Precautions:** Always use safety goggles and gloves when handling solvents

### **Parts List:**

- 1 gradated beaker (1 liter)
- Pitcher with funnel(for pouring into beaker)
- 1 digital refractometer
- Pipette
- Scale
- Smart phone app(available via download).



### **Preparations:**

- Place the tank of distilled ECOWASH under agitation for about 5 minutes. If no mixing equipment is available on site, stir the solvent actively along the bottom portion of the tank. Observe if the solution becomes milky.
- If the solution is milky or if there is an observable phase shift towards the bottom of the tank (see photo below for illustration of phase shift), then add 10% by volume of ADD-S.

- Stir again for five minutes or until the solution is clear and the phase shift is no longer apparent. If, after stirring, the product remains milky, then add 10% ADD-S once again and stir in until the solution is clear.



- Do not add more than 20% by volume of ADD-S. If the product remains milky after both additions of ADD-S, potential causes could be very low solvent temperature and/or higher than specified water in the solvent. Our technical service team will be happy to help identify the problem.



a) Example of phase shift in ECOWASH sample



( b) Example of a cloudy/milky ECOWASH sample

### Step-by-Step Instructions:

1. Gather just over 1 liter of distilled ECOWASH in a clean container. We have provided a pitcher to facilitate the pouring.
2. Open the Ecowash Balancing application
3. Verify that the scale is in gram mode. Tare the scale with the empty, dry beaker



4. Prepare a sample of just over 1 liter of distilled ECOWASH and let it settle to room temperature.

- Pour into the beaker up to the 1 liter mark. For a more precise reading, look at eye level and verify that the bottom of the meniscus is clearly at the 1 liter level (*Photo 2*).

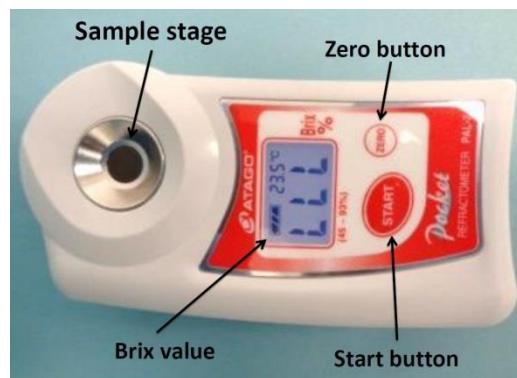


*Photo 2: Correct 1 liter beaker filling for ECOWASH density measurement.*



**NB: It is important to have an exact volume measure!**

- Note the reading in grams up to 3 decimal points (e.g. 0.845), and enter it into the dedicated SAMPLE VALUE cell: “**DENSITY KG/L**”.
- Turn on the digital refractometer and zero the refractometer by pressing “ZERO” (*Photo 3*).
- Using a pipette, take a drop of distilled ECOWASH from the beaker and completely fill the “sample stage” of the digital refractometer (up to the edge of the metal recipient).
- Press “START” and note the Brix value. Enter the value in the dedicated SAMPLE VALUE cell: “**BRIX (°B)**”.



*Photo 3: Representation of the digital refractometer*



**NB: It is important to fill the sample stage to the brim of the metal for an accurate measure!**

10. The converter will automatically calculate the amounts if any of each component required to correct the ECOWASH. These are precise amounts based on the target specification for new Ecowash but, in practice, the operating window is quite large. We suggest that you not add-back Additive A or H if the requested quantities are less than 10%. Additive S should be added back if more than 5% is indicated.

NB: These amounts are displayed in both kilograms and liters to facilitate the task. If you are working on a mass scale (kgs), then add the suggested amounts in kilos for every 100 kilos of distilled ECOWASH in the measured batch. Similarly, if you are working by volume (in liters), add the suggested amounts in liters for every 100 liters of distilled ECOWASH in that batch.



**Mix the corrected solution well.**

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### Ecowash balancing

Lot number (optional)

Density (kg/L)

Brix (°B)

**Add-back**  
for 100 units of distilled ecowash\*

	kg	Liters
ADD H	0,0	0,0
ADD A	0,0	0,0
ADD S	0,0	0,0

\* be careful not to mix units of measure

v1.0.5

### Technical Tips:

- You may verify the calibration of your scale by filling a clean beaker up to the 1000 ml mark with distilled water. You should read 1000 grams on the scale (after tare).
- Refractometer readings are temperature sensitive and there may be some minor differences in correction values when measuring the same batch under different conditions. So long as the temperature remains around room temperature, these differences are insignificant concerning product performance. ECOWASH has a large operating window and minor variations in balance have little to no effect on plate washout.
- In order to verify your refractometer, you may take a sample of our calibrated fluid. Verify that the value that you read is close to the published value of the sample. Small variations may occur due to sample temperature, instrumentation and the exact volume in the sample stage. Small variations (less than 1° Brix) from the stated value will have no significant effect on the correction calculations, nor on the performance of the balanced ECOWASH.