

## Mixing up the Electrolyte Solution (NaOH and distilled water)

Hydrogen Garage cleanses all HHO cells with NaOH (food grade lye) You can use KOH. Just make sure you flush out the cell well first with a garden hose through the cell. Flush out all NaOH. Final rinse with distilled or Reverse Osmosis filtered water. NaOH will gas off at 40°f and warmer. KOH will gas off at 45°f and warmer.

Use protective gloves and face shield when handling and mixing NaOH or KOH and water, NaOH is 100% LYE, it can blind you, if splashed into your eyes. Be very careful and have total respect for this caustic soda. Mix a spray bottle of full of 50% clear vinegar 50/% water, Have on hand during the install, so if you ever get any on your skin, you can spray with the vinegar and it will immediately dilute the caustic soda.

When mixing your electrolyte solution we recommend that you always use distilled water or R.O water (reverse osmosis filtered water) Using distilled water will ensure that booster is free from chemicals and contaminants that may be present in everyday tap/well water.

A 10% Electrolyte Solution Mixture is recommended at 1/2 cup of dry pellets/beads to a quart of distilled or R.O. (reverse osmium filtered) water. (1 liter)

If your booster is in a location that freezes, Canada, Alaska, you can mix a Bob Boyce. Recommended 20% of NaOH to 100% water. KOH you can go as high as 25% of KOH to 100% of water.

20% is 1 cup of dry NaOH pellets or caustic soda beads to 1 quart (1 liter) of water. If you live in a warm climate or don't like the idea of have really caustic solution under your hood then you can mix the 10% solution just so it provides the amps you are looking for. Say you need to produce just 20 amps, and then mix the solution just enough so the water pulls 30 amps when the cell is cold. Perfect temp. for electrolysis is 86°f. If your cell is too cold, 32°f it may not make hydroxy gas, until the water warms up. In extreme cold climates a heater blanket is recommended.

Proper electrolyte mixing is done with a glass container or a clean plastic bucket. A clean sweet tea gallon jug works well. Do not store electrolyte water in glass. Only plastic can NaOH or KOH can be stored in.

First fill jug with water, pour in the dry electrolyte pellets very carefully, wearing gloves and face shield, avoid splashing, have a clean stir stick, either plastic or wooded. Stir as you pour. OR pour the caustic soda Beads into the water jug quickly and close the lid and shake immediately.

The heat reaction to water can burn a hole in plastic real quick. So shake the jug with a lid on tight. You can cool the mix in a 5 gallon bucket of cool water.

Mix outside, breathe in no fumes! You must let the electrolyte/water mix cool down before using. It will not draw amps while hot as it is NOT sodium hydroxide until it cools. Bob Boyce told us this, he is a DOD chemist.

NaOH or KOH in 100% concentration can BLIND YOU! Be careful, it also burns your skin if left on your hands too long. Have a squirt bottle of 50% vinegar and 50% water nearby, it will instantly dilute the burning of the skin. It neutralizes the lye immediately. A necessary safety precaution.

Peace out. (9/22) <https://hydrogengarage.com/terms.html>