SDS-PAGEs In Sustainable

RA

Ideas and inspiration based on what has worked for us

Up to 50%
Less waste

Smart Steps
to finish faster

Be aware that all steps mentioned here are merely ideas. It is on you to decide which of them are applicable in your lab!
Remember, if you blunder, you have to start all over again – wasting many more resources …

TAKE AWAYS:

- Concrete steps
- Some smart tips for you
- Inspiration for other methods

BEFORE YOU START

Consider the Following Before You Get Going

Calculate and prepare only the required amount of gel solution, avoiding excess production.

Still, it is advisable to prepare 3-5% more to assure that you certainly can pour your gels. However, avoiding to round up just because it is easier to calculate.

Prepare as many gels as possible in one go depending on what is sensible for your experiment(s).

If you need gels the next days, you can prepare them, wrap them in wet paper towels, put them in a plastic bag and store them in the fridge. (It goes without saying that you can let the towels and bag dry for reuse).

Preparing the gels

Concrete Steps When Composing Your Mixes

Prepare your 1.5M and 0.5M and Acrylamide solution in specific/ designated tubes.
Most labs have their stock solutions in bigger glass bottles. Pour some into a 50mL tube and pipette from there. This approach has the benefit that you reuse the tube and keep the pipettes!

Prepare both solutions for both stacking and separation gel at the same time:

a) Add the required amount of water for both mixes
   Keep the serological pipette/tip

b) Add 0.5M Tris to the stacking gel
   Keep the serological pipette/tip

c) Add 1.5M Tris to the separation gel
   Keep the serological pipette/tip

Add the required amount of Acrylamide still with same pipette/tip

The polymerization is slow enough to not disturb your stacking gel, but if you are concerned, feel free to leave the pipette on the bench – but do not invert it!

Note: since you use special 50mL Flacons only used for SDS PAGEs, you cannot contaminate your solutions (however, pipette slow to minimize fluid retention)

Some smart tips

From Beginning To End

Reusing Tubes

If you prepare your gel-solution in a plastic tube, you can keep a bit of solution as your polymerization control. When polymerized, throw the gel out of the tube, rinse the tube once or twice and reuse it!

Take Care of Your Health

If you spill some of the gel, let it to polymerize before disposing, rather than wiping it off while it's still in its liquid (this is a less toxic)

Buffering the Buffer-Use

You can reduce & reuse the SDS buffer you add into the apparatus. As with everything, you should try step by step what works for you. Make sure the inner chamber is always entirely filled during the run. However, the outer chambers can be filled half to two-thirds and the buffer reused up to 3 times (especially when mixing it 50% with new buffer if you have doubts).

Sparks for sustainability

Get a little background (and talk to members of your lab) in how to optimize voltage/currents (considering separation efficiency). A simple google search will do, otherwise try those: https://shorturl.at/abiY6 or https://shorturl.at/brJOY

READVANCE

www.ReAdvance.com

We are an initiative **run by researchers and students**. It is the passion for a greener future that keeps us going. We want to **share the most exciting and best solutions** with you!
Join our family or follow us on social media to find out more!

I like sustainability in the lab!

Join the green family

Let me find out more!

The green family offers for you

- Many more ideas & protocols
- An international network
- Sustainability in the industry