

Stock Solution



TD-S Revision 2.0

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0.5M MOPSO Buffer - 1 L

Instructions

1. Dissolve 112.63 g of MOPSO, Free Acid ([MOPSO, Free Acid, GoldBio Catalog # M-795](#) [CAS 68399-77-9, mw. = 225.26]) in 750 mL of dH₂O.
2. Adjust to desired pH using 10N NaOH.
3. Fill to final volume of 1 L with dH₂O.
4. Filter sterilize (recommended) or autoclave.
5. Store at 4°C.

Note: Alternatively, equimolar concentrations of MOPSO free acid and MOPSO sodium salt ([MOPSO, Sodium Salt, GoldBio Catalog # M-799](#) [CAS 79803-73-9, mw. = 247.24]) can be mixed to attain a pH of ~ 6.9. The pH can be adjusted by increasing the molar ratio of MOPSO free acid (more acidic) or MOPSO sodium salt (more basic) and estimated using the Hendersen-Hasselbalch equation.

To make a 1 L solution of 0.5M MOPSO, use the table below to estimate the required volume of base for a given pH:

Starting pH: 3.47
Adjust pH with: 10N NaOH

pH	6.5	6.6	6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9
mL	8	10	12	14	16	19	22	25	28	31	33	35	37	39	41

Note: This data was collected in GoldBio labs using GoldBio reagents and calculated using 100 ml volumes. All reagent volumes recorded above were adjusted accordingly to create this protocol.

MOPSO pKa at 25°: 6.87
MOPSO pH range: 6.2 – 7.6
d(pKa)/dT value: -0.015