

# Stock Solution



TD-S Revision 2.0

Creation Date: 8/17/2015

Revision Date: 4/10/2019

## 4X PHEM Buffer, pH 6.9 – 500 ml

### Instructions

1. Add 36.28 g of PIPES ([PIPES, Free Acid, GoldBio Catalog # P-281](#) [CAS 5625-37-6, mw. = 302.37]) to 400 mL of dH<sub>2</sub>O. PIPES free acid will not readily dissolve until pH is raised.
2. Add 11.92 g ([HEPES, Free Acid, GoldBio Catalog # H-400](#) [CAS 7365-45-9, mw. = 238.30]).
3. Add 7.6 g EGTA ([EGTA, GoldBio Catalog # E-217](#) [CAS 67-42-5, mw. = 380.35]).
4. Add 1.97 g MgSO<sub>4</sub>·7H<sub>2</sub>O ([Magnesium Sulphate Heptahydrate, ACS Grade, GoldBio Catalog # M-020](#) [CAS 10034-99-8, mw. = 246.47]).
5. Adjust to desired pH using 5M NaOH or KOH.
6. Fill to final volume of 500 ml with dH<sub>2</sub>O.
7. Filter sterilize (recommended) or autoclave.
8. Store at 4°C.

**Note:** PHEM buffer was developed for preserving microtubules and is used to preserve cell structure in immunostaining. A 1:4 dilution of PHEM Stock Solution with dH<sub>2</sub>O will create a 1X Working Solution. 1X PHEM contains: 60mM PIPES, 25mM HEPES, 10mM EGTA, and 4mM MgSO<sub>4</sub>·7H<sub>2</sub>O.

### References

Schliwa, Manfred, and Jonathan Van Blerkom. "Structural interaction of cytoskeletal components." *The Journal of Cell Biology* 90.1 (1981): 222-235.

Gold Biotechnology

St. Louis, MO

Ph: (800) 248-7609

Web: [www.goldbio.com](http://www.goldbio.com)

Email: [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)