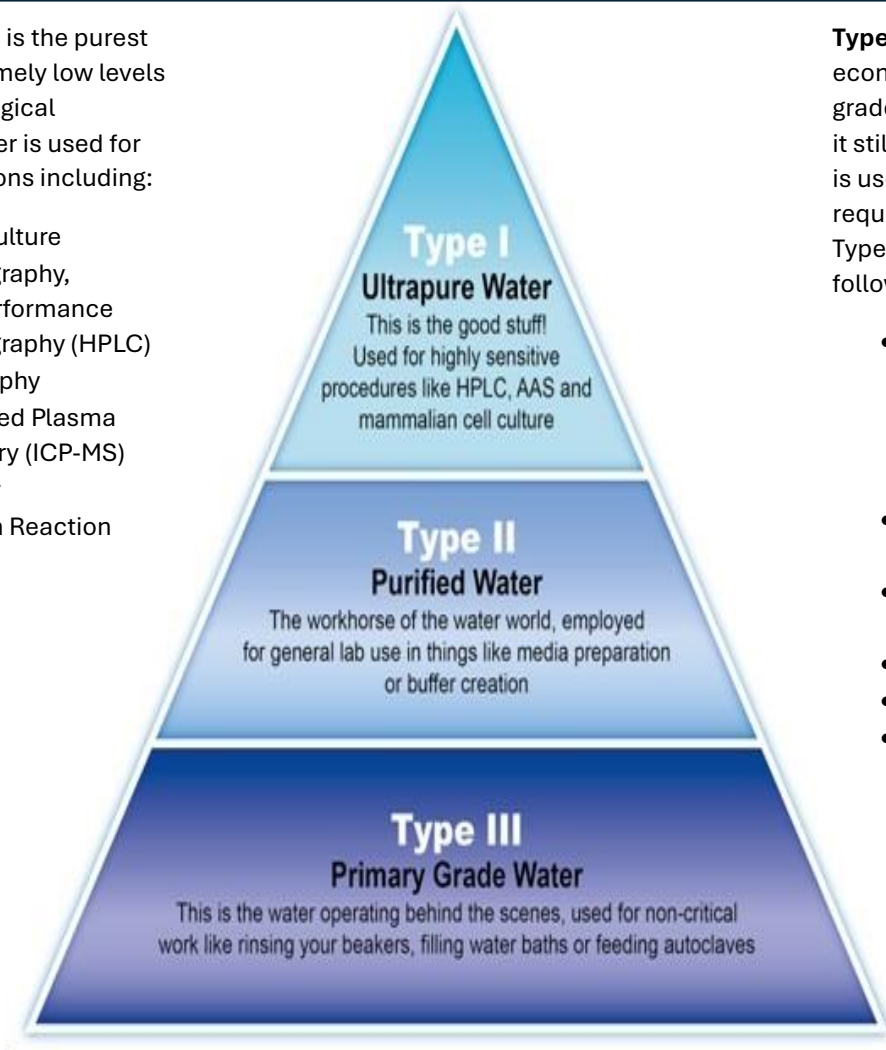


A Guide to Water Purity Types

Water purity is critical to scientific research, not all water is created equal, so it is important to know to correct type to use for your application.

Type 1 or ultrapure water is the purest form of water, it has extremely low levels of ions, organics and biological contaminants. Type 1 water is used for the most critical applications including:

- Cell and Tissue Culture
- Liquid Chromatography, including High Performance Liquid Chromatography (HPLC)
- Gas Chromatography
- Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
- Molecular Biology
- Polymerase Chain Reaction (PCR)



Type 2 or deionised water is more economical and uses a different grade of ion-exchange resin. While it still maintains a high purity level it is used for applications that don't require the highest level of purity. Type 2 water can be used in the following applications:

- General Lab Practices
 - Buffer preparation
 - Media preparation
 - Sample dilution
 - General chemistry
- Feed water for clinical analysers
- Microbiological Analysis and preparation
- Electrochemistry
- FAAS
- General

Diagram showing the different types of water used in the lab: ultrapure water, pure water and primary grade water. (c) ELGA LabWater 2014

Type 3 or RO water is produced through the purification technology reverse osmosis, it is the most economical method of removing up to 99% of contaminants in potable water. Type 3 has the lowest purity level and can be used for the following applications:

- Cleaning glassware
- Water baths
- Autoclave feed