

Deionised water

Application food additive

Deionised water; the definition

Deionised water (DI water, demi-water or de-ionised water), often synonymous with demineralised water / DM water, is water that has had almost all of its mineral ions removed, such as cations like sodium, calcium, iron, and copper, and anions such as chloride and sulfate. Deionisation is a mechanical / chemical process that uses specially manufactured RO-membranes, ion-exchange resins, which remove (separate) a/o exchange hydrogen and hydroxide ions for dissolved minerals, and then recombine to form water. Because most non-particulate water impurities are dissolved salts, deionisation produces a high purity water that is generally similar to distilled water, and this process is quick and without scale buildup.

Disinfection

However, deionisation does not significantly remove uncharged organic molecules, viruses or bacteria, except by incidental trapping in the resin. For food grade applications Hatেনboer-Neptunus advises always an additional 'on site' disinfection (or sterilisation) safety step in the downstream process after the deionised storage facility.

Drinking water substitute

Deionised water is NOT generally used for drinking water, as it is the minerals in potable water that provide the health benefits and taste. It also tends to remove minerals from food and electrolytes from the body, so it is not usually recommended for drinking or cooking. The microbiological content of the water is of importance and the water must be regularly monitored and tested to show that it remains within microbiological control.

Primary ingredient

Deionised water is used in the commercial beverage industry as the primary ingredient of any given trademarked bottling formula, in order to maintain critical consistency of:

- Taste
- Clarity
- Color

Guaranteeing the consumer complete reliability of safety and drinking-satisfaction of their favorite refreshment, no matter where in the world it has been bottled. In the process prior to filling and sealing, individual bottles are always rinsed with deionised water to remove any particles that could cause a change in taste.

HATENBOER-NEPTUNUS BV

The Water Supply Company