

## Alcohol Purification

Ion exchange resins can be used to remove dissolved solids from alcohol solutions. There are four major considerations.

1. Swelling - Ion exchange resins will swell in an alcohol solution. The degree of swelling is a function of the percent concentration of alcohol.
2. Flowrate - The ion exchange resin, in its swollen and softer condition, will be more sensitive to flowrates. The resins can deform under high flowrates and pressure drops can be high. It is important to size the ion exchange unit for a lower flowrate than usual.
3. Conductivity - If a conductivity monitor is used to monitor quality, the conductivity will seem much lower (resistivity much higher) than an equivalently pure stream of water. The monitor would have to be recalibrated for the alcohol solution.
4. Oils and Greases - Ion exchange resin can cause oil and greases that are in suspension in the alcohol to coalesce and surface-foul the beads. The higher the molecular weight of the oils and greases, the more of a problem they present.

