

Storage of Ion Exchange Resins

Ion exchange resins may be safely stored for prolonged periods of time in areas where the ambient temperature is between 4-40°C (41-104°F). Though ion exchange resins are normally supplied hydrated in their most stable forms, precautions should always be taken to store ion exchange resins in sheltered, reasonably well ventilated areas. Following these precautions, there should be little or no concern regarding the shelf life of the resins being stored. In many instances, ion exchange resins have been stored for years without any ill effects.

Physical damage of ion exchange resins due to dehydration may occur in cases of extreme moisture loss during storage. Although in many cases ion exchange resins have lost significant amounts of moisture and may appear dehydrated, sufficient water still remains at the interstitial surfaces of the ion exchange resin to prevent severe breakdown from osmotic shock. Before any resin stored for prolonged periods of time is placed into service, it is always considered good practice to soak the resin in salt water for a few hours. The rehydration process allows the ion exchange resins to swell back to their original volume slowly and to release any occluded air from the resin structure.

In special cases, it may be necessary to store ion exchange resins in their less stable forms. In these instances, it is especially important that precautions be taken to assure that the ion exchange resins are properly stored in a hydrated condition at temperatures which rarely exceed 40°C (104°F) for prolonged periods of time.

During the shipment to and storage in areas where temperatures drop below 0°C (32°F), storage precautions should be taken to avoid subjecting ion exchange resins to repeated freezing-thawing conditions. Although a few freeze thaw cycles are generally harmless, repeated freezing-thawing of ion exchange resins, regardless of the forms in which they are supplied, could bring about physical attrition of the ion exchange resin by physically breaking the resin beads.

Generally recommended "Rules of Thumb" are that unregenerated resins be used within five years, regenerated resins used within one year, and low TOC grade resins within a month or two.

See: TDS - Rehydration
TDS - Layup of Ion Exchange Units

