BetzDearborn* IEC2

resin cleaner

Water Technologies & Solutions
fact sheet

- Cleans fouled resin
- Improves feedwater quality and boiler reliability
- Extends resin life-reduces cost of resin replacement
- Increases resin throughput-reduces regenerant costs
- Easy-to-apply liquid product

description and use

BetzDearborn IEC2 is a blend of an acid chelant, an organic phosphonate, and a corrosion inhibitor, specially formulated to assist in the restoration of ion exchange resins. The product is designed to solubilize and disperse many metallic and inorganic foulants, including iron, copper, aluminum, and hardness salts.

typical applications

Ion exchange resins are subject to fouling by inorganic and organic compounds which are present to some degree in all waters. Some can be removed by special regeneration procedures, but others require treatment to restore throughput and effluent quality.

Metals, which cause fouling of resin beads, also catalyze decrosslinking of resin, physically degrading it. Iron and copper, which are present in both makeup and condensate streams, act in this manner unless successfully removed. Aluminum, present due to its use as a clarification aid, often brings an organic complex along, so that the resin is fouled internally and blinded externally. Salts of calcium and magnesium, either carried over from or precipitated after previous external treatment equipment, lodge between the beads. This increases the pressure drop across the resin bed and may lead to physical deterioration. In all cases described, resin throughput and water quality will suffer - increasing system operating costs and decreasing downstream system reliability.

When diluted with the brine used for sodium zeolite regeneration, BetzDearborn IEC2 can be used to control contamination of the resin and maintain softener and condensate polisher performance at peak efficiency. The frequency of BetzDearborn IEC2 application depends on the severity of the contamination problem.

For a severely fouled resin bed, out-of-service restoration may be required to regain optimal resin efficiency. Air lancing during the application provides excellent cleaning solution contact.

BetzDearborn IEC2 is also effective in dissolving most precipitated foulants in weak acid cation units, strong acid cation units, strong base anion units, and filtration media and equipment.

treatment and feeding requirements

Feed Point: Feed with brine in a tank, or through the open manway in the resin vessel.

Feedrate:

- In-service - depending on severity, 0.3 to 0.6 gallons per 10 cubic feet (3.9 to 8.2 L/m^3) of resin.
- Out-of-service - depending on severity, 3 to 6 gallons per 10 cubic feet (39 to 82 L/m^3) of resin.

Dilution: Dilute as necessary in the brine tank or directly to the resin vessel. The water level must be even with the top of the resin bed.

Equipment: A stainless steel transfer pump should be used to inject neat BetzDearborn IEC2 into the mix tank or resin vessel. The product is compatible with most elastomers, plastics, and stainless steel. An air

lance should be used to agitate the resin bed during BetzDearborn IEC2 servicing off-line (see Figure 1).

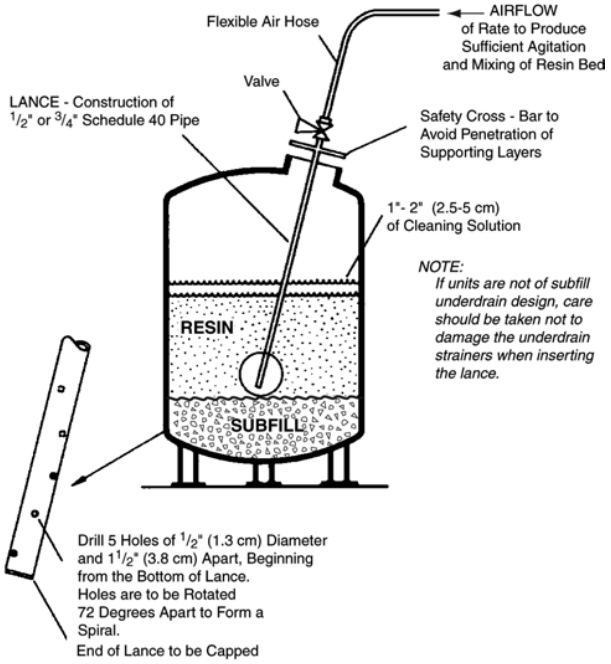

Figure 1: Air lance configuration for ion exchange resin cleaning.

general properties

Physical properties of BetzDearborn IEC2 are shown on the Material Safety Data Sheet, a copy of which is available on request.

packaging information

BetzDearborn IEC2 is a liquid blend, supplied under the SUEZ ChemSure* drumless delivery distribution services for contracted quantities within certain geographical regions. It is also available in 55-gallon (208-L), lined, non-returnable steel drums.

safety precautions

A Material Safety Data Sheet containing detailed information about this product is available upon request.