



Graver Technologies

Product Specification

GRAVEX® GR-3-9 US NG ULC Nuclear Grade Ultra Low Cl Hydrogen/Hydroxide

Spec No.	GTS-39-US-NG-ULC
Rev No.	2
Date	October 30, 2020

Properties

Resin Type
 Functionality
 Matrix
 Physical Appearance
 Ionic Form
 Cation:Anion Ratio
 Total Exchange Capacity, (meq/mL)
 Water Retention Capacity, (%)
 Ionic Conversion, (%)

Particle Size
 Mean Particle Diameter, (µm)
 Uniformity Coefficient
 > 1,180 µm, (%)
 < 300 µm, (%)

Friability
 Average g/bead
 % >200 g/bead

Whole Uncracked Bead, (%)

Impurities, (mg/dry kg)
 Aluminum
 Calcium
 Cobalt
 Copper
 Iron
 Lead
 Magnesium
 Mercury
 Potassium
 Sodium
 Chloride
 Silica

Limits

Strongly Acidic Gel Cation Exchange Resin
 Strongly Basic Type 1 Gel Anion Exchange Resin
 Sulfonic Acid / Quaternary (tri-methyl) Ammonium
 Styrene Divinylbenzene
 Light tan to brown translucent spherical beads
 Hydrogen / Hydroxide
 1:1 Equivalentents
 ≥ 2.0 Cation ; ≥ 1.1 Anion
 45 - 52 Cation ; 54 - 60 Anion
 ≥ 99% H⁺
 ≥ 95% OH⁻
 ≤ 5% CO₃⁻²
 ≤ 0.05% Cl⁻
 ≤ 0.1% SO₄⁻²

650 +/- 50 µm Cation ; 600 +/- 50 µm Anion
 ≤ 1.2
 ≤ 2
 ≤ 0.2

≥ 400 Cation ; ≥ 600 Anion
 ≥ 95% Cation ; ≥ 95% Anion

≥ 95%

Cation / Anion

≤ 10 / ≤ 10
 ≤ 10 / ≤ 10
 ≤ 5 / ≤ 5
 ≤ 5 / ≤ 5
 ≤ 20 / ≤ 20
 ≤ 10 / ≤ 10
 ≤ 10 / ≤ 10
 ≤ 20 / ≤ 20
 ≤ 20 / ≤ 20
 ≤ 20 / ≤ 20
 NA / ≤ 250
 NA / ≤ 100

Typical Properties

Shipping Weight, (g/L) ~ 685 - 710
 Operating Temperature °C ≤ 100 ; recommend ~ 60 max for best operation