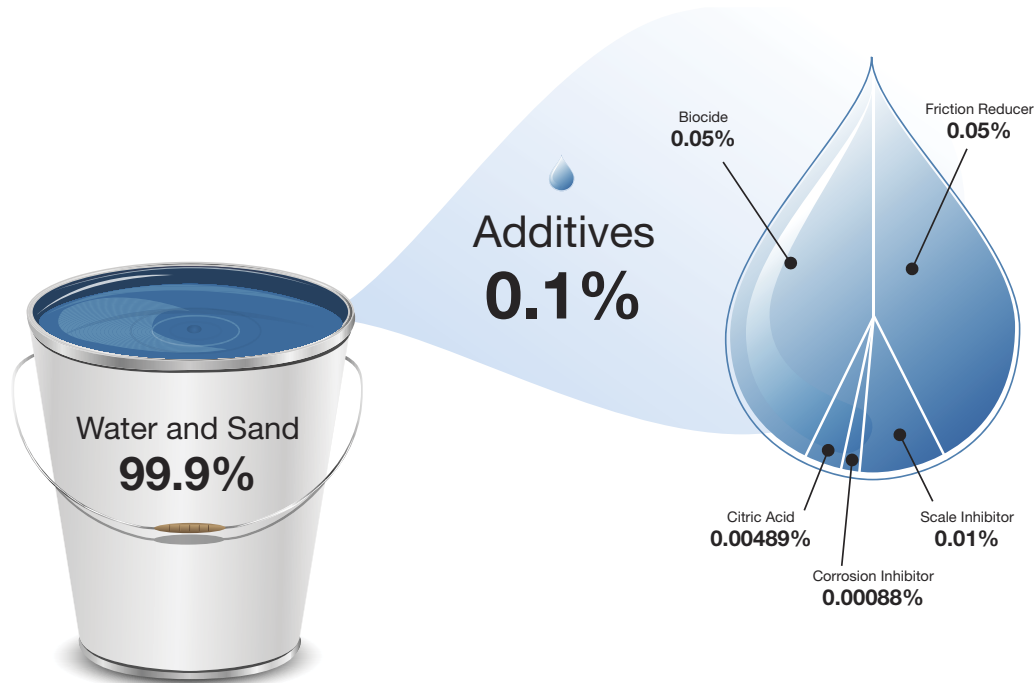


# FAQ – Understanding Frac Fluids



**Additives protect the wellbore from corrosion and improve the effectiveness of the fracture stimulation.**

Additive	Purpose	Common Application
Biocide (glutaraldehyde)	Eliminates bacteria in the water that can produce corrosive by-products	Disinfectant; Sterilizer for medical and dental equipment
Corrosion inhibitor (N, n-dimethyl formamide)	Prevents the corrosion of the pipe	Used in pharmaceuticals, acrylic fibers and plastics
Friction reducer (polyacrylamide)	Minimizes friction between fluid and pipe as required	Water treatment, soil conditioner
Citric acid	Prevents precipitation of metal oxides	Food additive; Food and beverages; Lemon juice
Scale Inhibitor (ethylene glycol)	Prevents scale deposits in the pipe... not always required	Automotive antifreeze, household cleansers, deicing, and caulk
Sand	Allows the fissures to remain open so the gas can escape	Drinking water filtration, play sand