

ICP-1000™

Iron Stabilization Agent



ICP-1000 is a copolymer that does not affect the frac fluid pH due to its low effective feed rate and chemically keeps the iron in formation in the reduced state (maintaining the iron cations in solution) and preventing the precipitation of iron compounds.

Conventional iron reducing agents consist of acids such as citric acid, acetic acid, and ethylenediaminetetraacetic acid (EDTA) to keep the iron in formation in a soluble or reduced form (ferrous iron). These acids prevent the iron from converting to an insoluble particle (ferric iron) resulting in solid particle precipitation which can then restrict permeability within the formation.

These methods of iron control have inconsistent performance particularly when the formation consists of materials that when dissolved by the acid, causes the pH to rise, neutralizing the acid and its ability to control iron and other metals.

This “acidic” approach to iron control also will reduce the frac fluid pH and can significantly affect Friction Reducer (FR) and chemical performance.

Purpose

ICP 1000 is a new liquid, non damaging iron control chemical that can be used in place of acids to stabilize iron and keep the iron in a reduced valance state (Fe^{2+}) and preventing the particulate iron (Fe^{3+}) to occur, eliminating these permeability damaging fines in the formation.



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Benefits

- Excellent iron control chemical
- Very safe to handle
- Does not affect the frac fluids pH due to its low effective feed rate and thus allows for optimum performance of the FR chemical, scale control agents, and biocide performance
- Completely soluble in water and brines
- Environmentally safe

Suggested Recommendations/ Usage

ICP 1000 is fed in proportion to the total iron in the water analysis. Typically 0.1 to 0.3 gallons/1000 of ICP-1000 can be used to control iron concentrations seen in average formation waters. However, consultation with your local SWSI sales or technical representative would be recommended in order to determine the correct concentration for each application.

Performance Data

Density:	11.88 lbs/gallon
Specific Gravity	1.125-1.625
Solubility in Water	Complete
Freezing Point	-26° F
Appearance	Clear, colorless liquid
Odor	Little to no odor
pH	3.5-5.0

Special Handling/ Precautions

Refer to the Material Safety Data Sheet (MSDS) for handling and safety precautions.

Ordering Information

Name:	ICP-1000
Part Number:	xx-35-490-0550
Package:	256 gallon totes

Refer to the current SWSI Price Book for pricing information.

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