

IC-3 Iron Control Additive

Applications:

IC-3 is an iron control additive that chelates dissolved ferric iron in spent acid. IC-3 is active at any temperature and can be used in hydrochloric acid strengths up to 28%. IC-3 is normally run between 0.5% and 2.0%.

COMPARISON OF IC-3 TO COMMON CHELATING AGENTS

	IC-3	EDTA	HEDTA	DTPA
Active pH Range (Fe3+)	0-5	0-8	0-10	0-10
Stability Constant (log K) for Fe3+	15.9	25.1	19.8	28.0
Stability Constant (log K) for Fe2+	8.3	14.3	12.2	16.4
Concentration to Chelate 1000ppm Fe3+	0.5%	0.7%	0.75%	1.0%

* Stability constants refer to the preference of the chelating agent for binding with specific metal ions. The metal ions which are chelated are those with the highest stability constant.

Properties:

Appearance White free flowing powder
Solubility Soluble in water and hydrochloric acid

Advantages:

- Dispersible and non-reactive with additives at all temperatures.
- Does not decompose at elevated temperatures.
- Will not precipitate out in the absence of dissolved iron.
- Capable of chelating in excess of 5000 ppm ferric iron dependent on additive concentration.
- Less expensive than IC-2.

Handling Precautions:

- Do not inhale dust.
- Significant dust in air may create an explosion hazard.

