

Iron Reducing Agent KMA003

1. Introduction

Ferric and ferrous ions remain in acid solutions during acidizing operations due to the very low pH of acids. When acid travels from surface to formation, it will dissolve iron from equipment, tubulars, scales and iron minerals in the formation. During spending of the acid, the pH of the acid will go up, and can result in the precipitation of iron. Trivalent Iron (Ferric) precipitate at about pH 3, while the divalent Iron (Ferrous) will not precipitate until the acid spent to a pH of 8. To minimize the precipitation of iron, it is better to keep the iron in the ferrous state. It is therefore required to add an iron stabilizer (reducer) in acid systems. KMA003 is a high performance iron reducing agent used in acids to convert the Ferric iron into ferrous iron so that it will prevent Ferric hydroxide precipitation.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KMA003	White powder	1.62-1.82	Soluble	Eyes, skin	Dust	5.0-8.0 (5%)

3. Chemical Properties and Application

KMA003 is an iron reducing agent used in both fresh and spent acids to keep iron in solution instead of precipitating. It can be used for most applicable stimulation fluid systems at various well conditions.

Ferrous iron will not form iron hydroxides until pH of 8. As we know, pH of most spent acids will not be more than pH of 6. Therefore, if the Ferric iron is converted into Ferrous iron, the chance of forming ferric hydroxide precipitation will be dramatically reduced. KMA003 is a high-performance iron reducing agent, which will react with ferric iron in acids and convert it in ferrous iron.

KMA003 is compatible with most additives in stimulation fluid systems.

4. Treatment

15 lbs/Mgal KMA003 is typically enough for control each 1000 ppm of ferric iron.

5. Packaging

KMA003 is supplied in plastic-lining bags with net weight of 25 kg/bag. It should be stored in shaded areas with good ventilation. Keep it away from high temperature, humidity and direct sunlight.