

DPA Additive II - KMA011

1. Introduction

Secondary and tertiary precipitations cause adverse effects in sandstone acidizing. Deep Penetrating Acidizing (DPA) technology introduces unique chemistry in Hydrofluoric acids to minimize potential damage from HF reactions with aluminosilicate minerals in the formation. KMA011 is a chelating agent that stabilizes most cations in spent acids and prevents reaction products from precipitation.

2. Physical Properties and Hazards

Additives	Form	S.G.	Water Solubility	Health Hazard	Physical Hazard	pH
KMA011	Colorless crystals	1.45-1.65	Soluble	Eyes, skin	Dust	2.0-3.0 (1%)

3. Chemical Properties and Application

KMA011 is a chelating agent which can be used to prevent aluminum and other cations from precipitation with hydrofluoric acids in sandstone acidizing treatment.

Aluminum, iron, calcium, and magnesium compounds are usually present in most sandstone formation minerals. Dissolution of sandstone minerals by hydrofluoric acids will release cations from the above compounds in solution. However, their fluoride salts are usually insoluble and therefore precipitation will occur. KMA011 is selected to stabilize these cations and minimize precipitations of their fluoride salts.

KMA011 is compatible with most additives and acid systems for sandstone acidizing.

4. Treatment

5-15% Weight is generally required in DPA acid system design. 10-13% Weight is considered the optimum concentration as indicated from laboratory and field results.

5. Packaging

KMA011 is supplied in plastic-lined 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.