millennium energy
Drilling Fluids & Chemicals

# PRODUCTS TECHNICAL DATA

## 1. PRODUCT NAME : ME-OBR

## 2. COMPOSITION / INFORMATION ON INGREDIENTS AND APPLICATIONS

**ME-OBR** is a proprietary mixture of organic and inorganic acids and solvents. It is a multipurpose polymer, carbonate particle and scale dissolver which can be applied to oil and gas facilities with particular applications in open hole and production well cake breaking applications.

With in-built corrosion sequestration and de-emulsifiers – it is widely used to break or prevent emulsion blockage and to scour metal ions from the well target. Use as pre-flush or open hole cake breaker.

### 2a. PRE-FLUSH FUNCTION

Emulsion Breaking; Polymer Dissolving; Metal Sequestration; Water Wetting; De-Oiling

### 2b. WELL BORE FUNCTION

Carbonate Dissolver; Mud Cake Breaker; Clay Control

### PHYSICAL AND CHEMICAL PROPERTIES

Color and smell：None

Physical state：Liquid

Boiling point（℃）：100

Freezing point（℃）：None

Melting point（℃）：<0

pH（1% water solution）： 5.0

Flammable: Yes

Volatility (acetic acid =1) None

Specific Gravity (water = 1)： 1.0-1.15

Water soluble：Good

Vapor Pressure (MM Hg):：None

Flashing point (°C) :None

## 3. SHELF LIFE

Shelf life is dependent on storage conditions but is estimated to be between 3 and 4 years at 20° C or between 2 to 3 years if stored above this temperature

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# Application Case History

## OBM filltercake breaker/Carbonate particle and scale dissolver -- ME-OBR: CNOOC/ Bohai offshore oilfield.

CNOOC used heavy Synthetic oil-based drilling fluid in Bohai offshore oilfield in 2014. The Synthetic oil-based mud cake contains asphaltene, colloid, calcium carbonate. The damaging mechanism was determined to be whole synthetic oil based mud (SOBM) compressed around the screen completion, combined with possible solids drop out. Coiled Tubing intervention was carried out with solvent/acid based Nano wash systems. Eventually multiple attempts with an acid/surfactant/ solvent system were unsuccessful. This treatment fluid was aimed at disrupting and removing any oil wet solids and / or calcium carbonate.

**ME-OBR** was ordered out to the location, 5.5% was prepared and pumped ahead of a base oil spacer. When **ME-OBR** made contact with the formation, it was noted that the losses increase slightly.The string jarred free shortly thereafter and was pulled successfully without any renewed sticking incidence. The contact time from the first **ME-OBR** contact to the string being freed was under three hours.