

SWEET CORROSION INHIBITOR COMPOSITION FOR USE IN THE OIL AND GAS INDUSTRY



INVENTION

Cost effective corrosion inhibitor composition for oil and gas applications. It has exhibited 95 % inhibition efficiency at 50 ppm for corrosion of C1018 carbon steel in CO₂-saturated 3.5% NaCl brine solution. This invention is useful for the oil and gas industry. The present composition is formulated using cheaper chemicals most of which are available locally.

MARKET SIZE AND GROWTH

The global market for corrosion inhibitors is expected to reach \$8.7 billion by 2021 from \$6.9 billion in 2016, rising at a compound annual growth rate (CAGR) of 4.6% from 2016 through 2021.

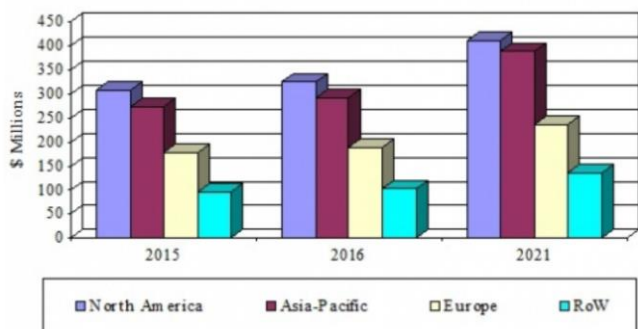


Figure 2. Global market for oil and gas applications of corrosion inhibitors, By region, 2015-2021 (\$ millions)

APPLICATIONS

The corrosion inhibitor can be used for protecting pipelines in oil well aqueous fluids containing CO₂ and chlorides and is particularly active at a very low dosage of 50 to 100 ppm.

ADVANTAGES

- ✓ Cost effective
- ✓ High performance
- ✓ Easy to scale up

PROJECT STATUS

The technology has been jointly developed by King Fahd University of Petroleum & Minerals (KFUPM) and Saline Water Conversion Corporation (SWCC). This invention in its current

form has been tested at laboratory scale. The invention is proven to have 95 % inhibition efficiency.

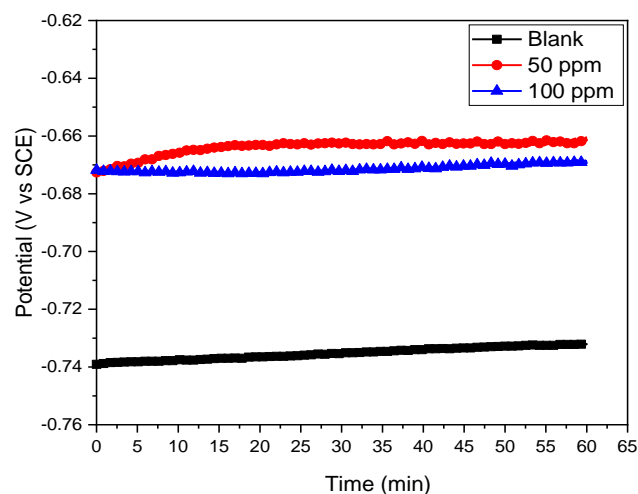


Figure 1. Variation of OCP with time for C1018 carbon steel coupon in 3.5% NaCl in saturated CO₂ at 55°C without and after the addition of 50 and 100 ppm of CoRE-C-1 after 1 h immersion.

LOOKING FOR DEVELOPMENT PARTNER

Although the devised invention has been proven at the lab scale, it needs to be tested for industrial usage. KFUPM seeks an industrial partner for its development and possible commercialization.

PATENT PROTECTION

A patent application covering this technology has been filed in the USA. The patent is jointly owned by KFUPM and SWCC. KFUPM and SWCC would like to talk to companies that are interested in developing this corrosion inhibitor.

ABOUT KFUPM

KFUPM was established in year 1963 and is located in Dhahran city of Saudi Arabia. KFUPM currently ranks at 186 in QS World University Rankings 2021. KFUPM's Innovation & Technology Transfer office strives for taking innovation from lab to market place.

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