

Description

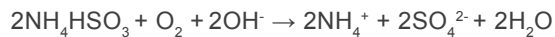
KAR-SCAV OX is a concentrated solution of ammonium bisulphite used as an oxygen scavenger in water-base fluid systems.

Typical Properties

Appearance : Pale yellow liquid
pH (neat) : 4.5 - 5.5
Specific Gravity : 1.4

Features and Benefits

KAR-SCAV OX removes dissolved oxygen in water-base systems which causes severe corrosion in the drill string and surface equipment at very low concentrations (<1 ppm) under most circumstances. It reacts with oxygen as follows



KAR-SCAV OX is compatible with all types of water-base drilling, workover and completion fluids except calcium and zinc brines

KAR-SCAV OX also extends the thermal stability of polymers commonly used in water-base drilling fluids.

Application

KAR-SCAV OX is added to eliminate dissolved oxygen in water-base fluids to inhibit pitting type corrosion detrimental to the drillstring and surface equipment. It should be injected continuously and evenly into the pump suction through a corrosion resistant metering pump during circulation. KAR-SCAV OX can be injected into the downhole fluid with minimal atmospheric contact and therefore this technique minimizes the rapid depletion of KAR-SCAV OX by atmospheric oxygen.

Limitations

KAR-SCAV OX does not perform in fluids with high calcium and zinc content and is thus incompatible with calcium and zinc brines. It can be used in fluids containing calcium less than 2,000 mg/l.

KAR-SCAV OX is also incompatible with bactericides containing aldehydes. Otherwise, the effects of both chemicals would be diminished.

KAR-SCAV OX should not be mixed with caustic soda. This results in explosion of released ammonia gas.

At high pH levels, KAR-SCAV OX decomposes and releases ammonia gas.

Treatment

Initially, KAR-SCAV OX is injected at a rate of 0.005 to 0.01 gal/bbl at the pump suction.

A KAR-SCAV OX concentration of approximately 8 mg/l removes 1 mg/l of dissolved oxygen. Normally, treatment is designed to maintain KAR-SCAV OX/Oxygen ratio of 1:10 on a weight basis to provide a slight residual in the system as a safety margin. A sulfite concentration of 75 to 150 mg/l is recommended at the flow line. If calcium content of filtrate is greater than 200 mg/l, sulfite level should be kept around 40 mg/l.

Over treatment with KAR-SCAV OX increases the corrosivity of the system as well as promoting calcium or barium sulfite precipitation.

Packaging

KAR-SCAV OX is supplied in 55 gal (208 liters) drums.