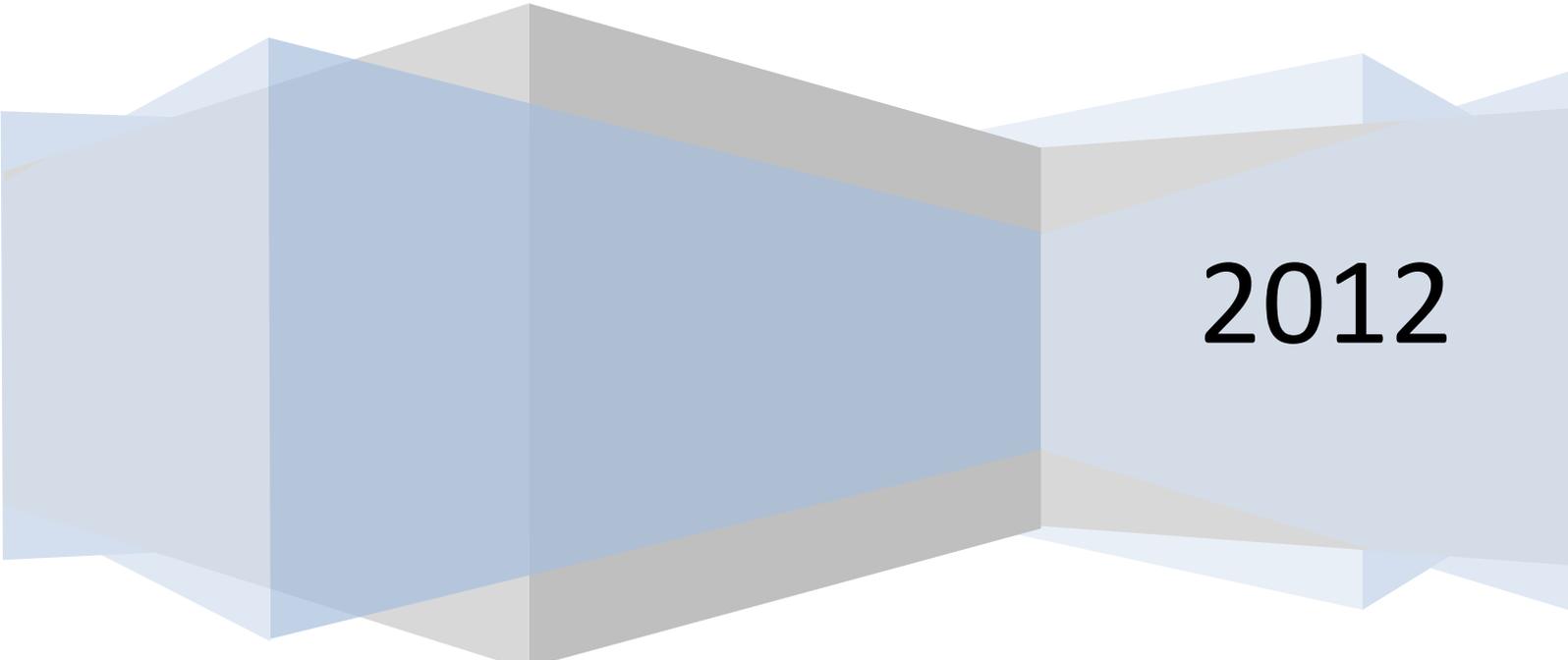


HEMOL

Defoamer for Increased Oil Production

Hemol - 25



2012

Defoaming Agents for Increased Oil Production - Hemol 25

Introduction

Since the East Velma field, located in southern Oklahoma, was unitized in the early 1960's, production has increased substantially. Gross operated production increased from 7,850 BOPD (*barrels of oil per day-a common unit of measurement for the daily volume of crude oil produced by a well or from a field*) during the last half production increased from 7,850 BOPD during the last half of 1963 to 20,710 BOPD in late 1969. Relatively large investments were made for various types of lift equipment, including beam pumping units, hydraulic pumping equipment, and electric submersible pumps. pumping equipment, and electric submersible pumps. In certain cases, the equipment failed to pump larger volumes of crude, and monitoring data indicated substantial fluid levels above the pump. In late 1967, in an effort to lower pumping fluid levels by depressing foam columns, defoaming agents were first tried in the East Velma field. The objective was to either verify or eliminate the image of high working fluid levels. The defoaming agents were successful in lowering fluid levels to a certain extent; however, during the period immediately following the use of defoamers for fluid column depression, an increase in production was noted. After analyzing data obtained during the tests, a field-wide testing program was initiated to determine if the initial production increases could be reproduced and economically sustained over a period of time. Concurrently, laboratory tests were started to determine if the most effective defoaming agents were being used.

Description of Defoaming Compounds And How They Work

Defoamer or an anti-foaming agent is fast acting oil based antifoaming agent formulated for oil production and other hydrocarbon processing systems. The terms anti-foam agent and defoamer are often used interchangeably. It reduces and hinders the formation of foam in industrial process liquids. A defoamer is normally used in industrial processes to increase speed and reduce other problems. It addresses both problems with surface foam and entrained or entrapped air. It can be used to reduce frothy crude oil production; to control and eliminate foam in gas scrubbers, surge tanks, crude oil treating units and drilling, work-over and coil tubing applications.

Generally a defoamer is insoluble in the foaming medium and has surface active properties. An essential feature of a defoamer product is a low viscosity and a facility to spread rapidly on foamy surfaces. It has affinity to the air-liquid surface where it destabilizes the foam lamellas. This causes rupture of the air bubbles and breakdown of surface foam. Entrained air bubbles are agglomerated, and the larger bubbles rise to the surface of the bulk liquid more quickly.

Oil based defoamers have an oil carrier. The oil might be mineral oil, vegetable oil, white oil or any other oil that is insoluble in the foaming medium, except silicone oil. An oil based defoamer also

contains a wax and/or hydrophobic silica to boost the performance. Typical waxes are ethylene bis stearamide (EBS), paraffinic waxes, ester waxes and fatty alcohol waxes. These products might also have surfactants to improve emulsification and spreading in the foaming medium.

These are heavy duty defoamers and are normally best at knocking down surface foam.

Anti-foamers prevent or delay foam formation whilst defoamers destroy an existing foam; however some defoamers are also anti-foamers. They have been used in oil separators at concentrations between 0.1 – 100ppm in crude although a typical range is 1 – 10 ppm in crude. Over-treatment can actually stabilise the foam.

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The organic compounds are the most ideally suited for use in crude oil as defoaming agents for the following reasons.

1. They are effective at concentrations of only a few parts per million.
2. They are chemically inert and do not contaminate oil.
3. They are soluble in the lighter ends of crude fractions.
4. They exhibit only slight changes in properties over a wide range of temperature.

Defoamers are used in many industrial processes and products: wood pulp, paper, paint, industrial wastewater treatment, food processing, oil drilling, machine tool industry, oils cutting tools, hydraulics, etc.

Test methods

There are several ways to test defoamers.

The easiest is looking at the surface foam. All that is needed is a system for generating foam. This might be done with a round pumping system with a nozzle and a cylinder or an air injection system into a cylinder. The cylinder is fitted with a scale to measure the foam height. This equipment may have a heater to control the temperature.

Entrained air can be tested with a similar equipment that have a density meter that can record changes of the liquor density over time.

Drainage can be tested with a filter system for measuring the time to drain a liquid through the filter. The filter might be pressurized or have a vacuum.

HEMOL – 25

HEMOL - 25 is a fast acting oil based antifoaming agent formulated for oil production. It can be used to reduce frothy crude oil production; to control and eliminate foam in gas scrubbers, surge tanks, crude oil treating units and drilling, work-over and coil tubing applications.

Quick Details

Classification: Chemical Auxiliary Agent

Other Names: defoamer

Place of Origin: Macedonia

Type: defoamer

Usage: Petroleum Additives

Brand Name: Hemol-25

Model Number: Hemol-25

drilling mud additive: defoamer

Packaging & Delivery

Packaging Detail: 180kg/plastic drum,

Delivery Detail: 15~25 days

Specifications

1. Defoamer
2. Oil - based drilling fluid chemical
3. With excellent lubricating effect

Product Description

Defoamer for Drilling Fluid Hemol-25 is made of low plant oleate and surfactants with brown liquid, which is mainly used in drilling fluid system with excellently defoaming and lubricating effect.

Advantages

- *Strong defoaming
- *Wide spectrum defoaming
- *Excellent lubricating
- *Durable effectiveness
- *Quick in effect and easy to use

Application Range and Method

Hemol-25 is suitable for defoaming operation of water-based drilling fluid. There is excellent effect for all kinds of foaming conditions caused by drilling fluid additives and other reasons. Hemol-25 should be mixed into drilling fluid cycling evenly and slowly. . Note: Before the addition of Hemol -25 Anti Foam, please shake evenly and dilute with small amount of tap water.

Recommend dosage is 0.1% to 0.5%.

Technical Data

Item	Specification
Appearance	Brown liquid
Freezing point °C	≤-10
Density, g/cm ³	1.05 ~ 1.1

Package and Storage

50kg or 180kg plastic drums or according to customer's requirement.

Avoid high-intensity extreme pressure, heat and prolonged exposure to strong sunlight.

