

INFORMATION

OIL AID- AFR- 1

ACID FRICTION REDUCER

DESCRIPTION

OIL AID- AFR- 1 is a cationic polyacrylate copolymer for use as a friction reducer in acid, brines, high hardness, and fresh waters. Its typical properties are:

Specific Gravity, 60° F	1.07
Pour Point	-10° F
pH	4.9 neat
Ionic Charge	Cationic

APPLICATION

OIL AID- AFR- 1 is recommended as a friction reducer for acid, brines, high calcium, and fresh waters. OIL AID- AFR- 1 can give up to 70% friction reduction in 15% HCl and weak acid solutions. OIL AID- AFR- 1 works well in high strength acids even at temperatures up to 300° F. As little as 1 gallon per 1000 will provide good friction reduction in fresh water in the presence of cationic clay stabilizers.

RECOMMENDED TREATMENT

From 1 to 2 gallons per thousand is recommended in weak acid (acid fracturing), and 15% HCl. Strong acid (28%) causes a slight increase in degradation of the polymer and usually requires from 2 to 4 gallons per thousand to obtain in excess of 65% friction reduction. Less than 1 gallon per thousand gives excellent friction reduction in fresh water, even when used with cationic clay control agents. Best friction reduction with OIL AID- AFR- 1 is usually attained "on the fly" with the chemical injected into the centrifugal pump. When OIL AID- AFR- 1 is premixed, avoid prolonged storage of the acid mixture at temperatures above 100° F. Under these conditions, degradation of the polymer will begin in 8 hours in 15% HCl, and in 4 hours in 28% HCl. Below 100° F acid solutions retain friction properties for up to 16 hours. A homogeneous acid mixture in a tank is easily obtained if agitation of the acid solution is begun before the addition of OIL AID- AFR- 1.

HANDLING

Observe warning labels on containers. Contact with skin and eyes should be avoided. Do not take internally. Use of galvanized metals and natural or synthetic rubber should be avoided. Teflon or inert materials should be used for gaskets and pump seals.

MISCELLANEOUS

OIL AID- AFR-1 is stable at normal outdoor temperatures for 1 year. However, as with any emulsion, slight stratification occurs with time. Therefore, drums should be thoroughly agitated before each usage. A "Lightning" type mixer or an air lance should be inserted to within one inch of the bottom of the drum and stirring should continue for 10 to 15 minutes. Recovery after standing or freeze-thaw is complete with moderate agitation.

As with any chemical stored in a closed drum, exposure to high temperatures should be avoided.

PACKAGING

OIL AID- AFR-1 is available in 55 gallon export quality drums.

OIL AID- AFR-1 is a Messina trademark