

OIL AID-S-15

NON-IONIC SURFACTANT

DESCRIPTION

OIL AID-S-15 is a specially-formulated surfactant that considerably reduces solution surface tension for various types of acids, as well as water-based fracturing fluids and brines. OIL AID-S-15 is a non-ionic surfactant which allows exceptionally low surface tensions to be achieved in comparison to many other types of surfactants currently available. Its typical properties are:

Form	Liquid
Color	Clear/Pale Yellow
Specific Gravity	Approx. 1.00 - 1.01
Flash Point ° F	Greater than 100 ° F.
Pour Point ° F	-15 ° F
Charge	Non-Ionic

GENERAL DESCRIPTION

OIL AID-S-15 is a complex solution of quaternary ammonium compounds, and surface active agents in a modified solvent. The unique processing of this product has enabled the formulation of an extremely effective surfactant which, when used at very low concentrations allows surface tension reductions from 100 - 2000%.

APPLICATIONS AND ADVANTAGES

OIL AID-S-15 has the following applications and main advantages.

1. OIL AID-S-15 can be used in all types of hydrochloric acids including 15% and 28% concentrations.
2. OIL AID-S-15 can be used in hydrochloric/hydrofluoric acid formulations.
3. Surface tension in water based fracturing fluids is considerably reduced by OIL AID-S-15.
4. OIL AID-S-15 is normally used in concentrations of 1.5 to 4 gal per 1,000 gal of fluid, making it an extremely cost-effective surfactant.
5. Utilization of OIL AID-S-15 in acidizing treatment improves fluid penetration and fluid recovery after treatment.
6. OIL AID-S-15 is fully compatible with a wide variety of other additives, enabling multifunctional fluids and acid treatments to be formulated.



CONCENTRATION / PRODUCT USAGE

OIL AID-S-15 is normally used in concentrations of 2 to 4 gal per 1,000 gal of fluid. For most acidizing and water based fracturing fluids 2 gal per 1,000 is the recommended concentration.

The optimum loading should be determined by laboratory pilot testing prior to use in the field.

RECOMMENDED MIXING PROCEDURES

To realize the full benefits of OIL AID-S-15, the following typical mixing procedure for acid formulations is recommended.

1. Prepare the calculated quantity of water (and inhibitor) in the mixing tank.
2. Add 2 gal per 1,000 gal of final acid volume. (or alternative S-15 loading, which appropriate to your specific requirements)
3. Circulate and mix thoroughly to ensure even dispersion of OIL AID-S-15.
4. Add the required quantity of acid concentrate.
5. Continue circulating to allow total uniformity of the finished fluid.

If this procedure is followed full dispersion and optimized utilization of OIL AID-S-15 will be achieved.

SAFETY

The following safety procedures should be followed when handling OIL AID-S-15.

1. In case of eye contact, flush the eyes thoroughly for a period of 20-25 minutes and obtain medical treatment immediately. Chemical goggles should always be worn when handling this product.
2. For slight skin contact wash the affected area with soap and water thoroughly. In the event of prolonged skin contact a very mild burn may occur, once again the infected area should be thoroughly washed and medical attention sought.
3. OIL AID-S-15 should always be handled in a very well ventilated area, and all personnel should avoid inhaling fumes.

PACKAGING

OIL AID-S-15 is available in 55 gal drums.

OIL AID-S-15 is a Messina trademark