

Clay-Loxx to KCL Use-Rate Comparison

Clay-Loxx is a liquid product. It mixes easily with water. KCL is a hard-to-mix powder that requires significant amounts of time and labor to store, handle, and cut bags to produce a KCL solution, not to mention delays due to the required mixing time for complete dissolving.

KCL is a powder that comes in bags which require storage space and get damaged and spilled when handled. **Clay-Loxx** is a liquid that comes in pails, drums, and totes that can be stored outside without danger of damage or loss.

Over twenty-one 50lb bags of KCL per 100 bbls of water are needed to make 3% solution; over thirty-six 50lb bags of KCL per 100 bbls of water are needed to make a 5% solution.

1 gallon of easy-to-mix **Clay-Loxx** per 100 bbls of water for each % KCL required outperforms and provides better protection than powdered KCL. 5 gallons of **Clay-Loxx** per 100 bbls of water produces a working fluid with far superior inhibition than 5% KCL. For example:

2% KCL	4% KCL	6% KCL
2 gal of Clay-Loxx /100 bbls of water Outperforms 2% KCL	4 gal of Clay-Loxx /100 bbls of water Outperforms 4% KCL	6 gal of Clay-Loxx /100 bbls of water Outperforms 6% KCL

Replacing KCL with **Clay-Loxx** yields obvious savings while giving far superior better performance.

Clay-Loxx

Formation Damage Inhibitor

Replacement for Potassium Chloride in
Drilling, Frac, and Completion Fluids

RELIANT TECHNOLOGIES, INC.

2933 HWY 1 North
PORT ALLEN LA , 70767
(225) 383-7923
(225) 383-7961(fax)

Advantages of using **Clay-Loxx**

- ☀ Superior performance versus KCL in the prevention of Clay Swelling and Shale Erosion
- ☀ Compatible with most gels, crosslinkers, and breakers
- ☀ Will not adversely effect fluid pH
- ☀ Superior inhibition vs KCL as proven by capillary suction time and REVERSE PERMEABILITY testing
- ☀ Minimizes logistics and material handling problems
- ☀ Can be mixed on-the-fly
- ☀ Compatible with other common fluid additives
- ☀ No inorganic chlorides
- ☀ Low freezing point
- ☀ Low surface tension
- ☀ Conserves storage space
- ☀ Can be used in preflush fluids and all completion fluids
- ☀ Can be used with water (Salt or Fresh), brines, acids, and drilling fluids

Clay-Loxx

General Information

Potassium Chloride (KCl) is used at a minimum three percent (3%) concentration, although it is common to use much higher concentrations depending on the clay content and the clay characteristics of the formation being treated. A three percent (3%) solution requires approximately 1070 Lbs. of KCl per 100 bbls. of water (22-50 lb. Bags or 20-25 kilo Bags). Because KCl is mined from mineral deposits, its' quality, purity, and consistency varies widely with each lot purchased. The quality of **CLAY-LOXX**, however, does not vary, and only 5 Gals. of **CLAY-LOXX** per 100 bbls. of water drastically out performs a 3% KCl solution, actually giving superior inhibition to even a 5% KCl solution.

Replacing bagged KCl with **CLAY-LOXX** results in large savings for operators in terms of freight savings, warehousing, inventory space, blending manpower costs, on-the-fly savings when local water sources are available, and maintenance costs savings on equipment such as pumps, due to damage caused by the various granular materials in the dry KCl. In the export market, the savings are more dramatic. In terms of oceanic transport costs alone, the cost savings are tremendous.

Also, **CLAY-LOXX** has a specific gravity close to that of water, heavier brine solutions (using fresh or salt water) can be formulated using heavier salts without causing precipitation of the salts to include KCl while getting the necessary clay stabilization.

THE USE OF **CLAY-LOXX** REPRESENTS A HUGE POTENTIAL FOR SAVINGS

Reliant Technologies, Inc. has a field test kit available to **CLAY-LOXX** users that will confirm the exact concentration of **CLAY-LOXX** in water or fluids in less than one minute with a great deal of accuracy. This test is used in the field as well as in the lab where the time is not available to run a long chemical test procedure.