

WA Acid spec and instruction sheet

Stimsol-Solvent Acid Stimulation Fluid

This fluid combines the effectiveness of the Stimsol WA solvent in an emulsion with 15 – 20% HCl. This fluid removes asphaltenes, waxes, sludges and emulsions and then continues to remove scales and stimulate the nearby well bore.

The Stimsol Solvent Acid Stimulation Fluid is an emulsion of aliphatic, aromatic and oxygenated solvents at 10 to 70% by volume of solvent with a specially formulated HCl blend. The emulsion is solvent exterior, fairly stable and reacts well with water wet, dry or oil well carbonate.

WA-Acid improves well stimulation by:

- Penetrating or removing heavy coatings of waxy or asphaltenic sludge to allow the acid to react with the scale or formation.
- Less iron is dissolved from the tubing or casing as the exterior solvent emulsion is less corrosive due to the lack of contact of the acid phase with the metal.
- Reducing the probability of acidizing to water.

Physical Properties

Appearance	white, somewhat viscous emulsion
Specific Gravity	Variable usually less than 1.0
Flash Point	Less than 10 degrees Celsius
Solubility	Partitions between oil and water

Application

Selection of an appropriate WA-Acid system depends on the results of a diagnosis of potential well problems. The selection of an acid strength sufficient to deal with scale present or desired formation stimulation is balanced against solvent requirements to remove wax, asphaltene and sludge deposits. Specific pumping rates should be determined in order to take advantage of the properties of the WA-Acid. Generally a slower initial rate followed by increasing rates to achieve differential pressure diversions is preferred. Clean crude with appropriate additives is the preferred load fluid used for flush.

A typical treatment down the annulus might involve:

1. Pump clean crude with additives, fill tubing and shut flowline
2. Pump solvent/acid and spot at perms.
3. Allow soak/reaction time.
4. Repeat 2 and 3 as required increasing pumping rates as treatment progresses.
5. Use clean crude with additives to displace.
6. Let soak 24 to 72 hours and pump to evaluate.

Note: *No service rig required*

Like any acid blend, the WA-Acid system must be tested for compatibility with the formation crude before use. If the clean crude used is not from the same formation, it should also be tested for compatibility with both crude and water.

Mixing and Handling

WA Solvent Blends and Reduce acid are usually assembled from components at the station or in the field. The preferred mixing procedure is to mix the solvent phase (dry tank) and the acid phase in separate tanks and then combine and mix just before use. This results in better stability. If this practice is impractical, all the ingredients may be placed in a single tank. They are then mixed and allowed to separate for 15-30 minutes. The emulsion is remixed to obtain stability. The emulsion should be remixed on location before use.

Cautions

The emulsion is both corrosive and toxic by ingestion. Full face respirators with organic vapour and acid gas cartridges should be used. Prevent contact with skin or clothing.