

# One-Stage sandstone acid

Achieve effective sandstone stimulation in ONE stage

## Applications

- Acid fracturing and matrix acidizing in sandstone formations
- Spearhead acidizing in shale formations with high breakdown pressures
- Descaling and stimulation of geothermal wells
- Descaling and cleaning of sand control completions

## Features and Benefits

- Eliminates HCl acid pre-flush and post-flush
  - Reduces treatment fluid volume
  - Simplifies treatment
  - Reduces overall treatment and rig time
  - Deploys in one, efficient stage
- Uses optimized chemistry
  - Stimulates deeper and more efficiently in sandstone reservoirs
  - Minimizes secondary reactions and damaging precipitates
  - Incorporates surface retarding agents that eliminate fast reaction of HF acid
- Offers tailored and proprietary acid blends for sandstone stimulation and shale breakdown
  - Decreases risk of formation damage and fine migration
  - Provides higher reactivity with quartz than other conventional HCl/HF mud acid systems

A new and patented **One-Stage Sandstone Acid (OSSA) system** reduces treatment volume, simplifies treatment execution, and lowers overall treatment and rig time. This is a result of the system's ability to eliminate the HCl acid pre-flush and post-flush that is required with conventional HCl/HF mud acids.

The system's proprietary blend of retarding agents and enhanced clay-protecting additives work synergistically to control HF reaction, minimize secondary reactions in the near-wellbore region, and deliver treatment deeper into the formation.

The OSSA system provides an alternative means for reducing breakdown pressure in tight sandstone formations and shale formations where initiating fractures are difficult. The lower associated breakdown pressures delivered by the system application reduce horsepower requirements and bring important savings in multi-stage fracturing treatments.

Proprietary OSSA system blends can be tailored to a specific formation's mineralogy. Contact your local Baker Hughes representative to explore opportunities of how the OSSA system can help you optimize your acidizing efficiency and performance.

## Safety Precautions

Proper precautions should be taken to avoid eye, skin and respiratory contact. Protective eye wear, chemical gloves, aprons, face shield and respiratory should be used when mixing acid solutions.

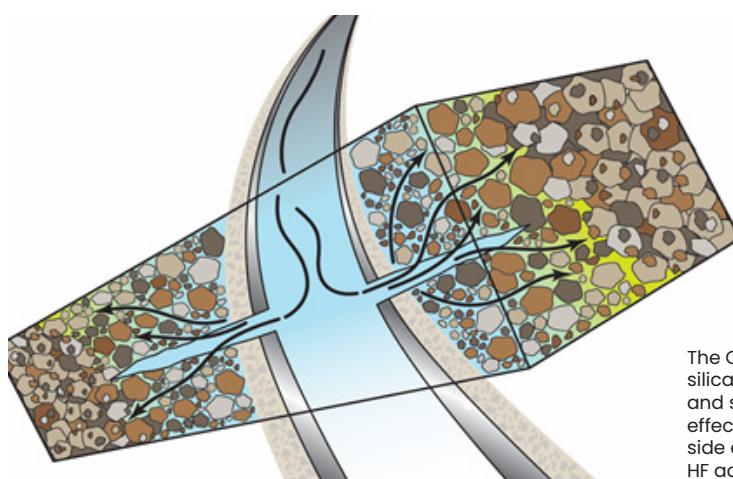
Refer to the safety data sheets (SDS) for additional handling, transport, environmental, and first aid information.

## References

SDS

## Typical properties

Typical temperature range	Up to 500°F (260°C)
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The OSSA systems remove silica (quartz), silicate fines, and silicate scales more effectively and without the side effects of conventional HCl/HF acid solutions.