



CHEMBINE₂ combination chemical

Specially designed for high-temperature, pressure, and TDS brine systems

Applications

- Conventional
- Unconventional
- Onshore
- Offshore

Features and Benefits

- Designed for high-temperature, high-pressure HT/HP, and high total dissolved solids (TDS) brine systems
- Adsorbs on the surface of crystals during nucleation
 - Can be used against a variety of scales
 - Provides versatility under changing conditions
- Adsorbs onto metal surfaces
- Controls corrosion due to the acid gases of carbon dioxide
- Suitable for capillary injection
 - Passes stringent laboratory capillary testing at 350°F (176°C) for seven days in both SS316 and duplex 2205
 - Passes laboratory stability tests up to 450°F (232°C)

CHEMBINE₂™ WCW3778 combined scale and corrosion inhibitor, from Baker Hughes, controls corrosion and scale in oilfield systems. It inhibits mineral scale deposition by crystal distortion, adsorbing on the surface of scale crystals during nucleation, blocking active growth sites, and limiting further expansion of the crystal. It also acts as a film-forming corrosion inhibitor, adsorbing onto metal surfaces to provide protection in both brine and hydrocarbon phases.

CHEMBINE₂ WCW3778 combined scale and corrosion inhibitor has been designed to be effective in high-temperature (up to 350°F [176°C]) and high-pressure systems. Approximate dosages range from 100 to 200 ppm depending on system conditions. Baker Hughes controls proppant flowback and reduces crushing effects, resulting in improved fracture conductivity and long-term stimulation performance.

These additives are deformable particles, which are combined with proppants and fluids during fracture stimulation operations. As the formation closes, the proppants press into the deformable particles, cushioning them from damaging stresses and locking them into place. This minimizes the risk of proppant flowback and fines generation.

Materials compatibility

Suitable

Metals: Admiralty brass, aluminum, copper, stainless steel 316, stainless steel 304

Plastics: HD polyethylene, HD polypropylene, polyethylene linear, Teflon®, PVC

Elastomers: Buna N, neoprene, Viton®, CSM, EPDM

Not suitable

Metals: C1018 mild steel

Suitability criteria:

Metals: <1.0 MPY loss

Plastics: <10% weight change

Elastomers: <10% weight change

Materials suitability is based on analysis of test results obtained under specified laboratory conditions. All materials selection should be based on actual application. Testing results for materials will be made available on request.

Safety and handling

Before handling, storage, or use, review the Safety Data Sheet (SDS) for guidance.

Typical properties

pH	2.4
Pour point	<-45°F (≤-45°C)
Flash point, closed cup	64.4°F (18°C)
Relative density at 60°F (15.6°C)	0.934
Viscosity at 40°F (4.4°C)	6.4 cP
At 0°F (16°C)	16 to 18 cP