

# ScaleFix CSD

## Environmentally friendly carbonate scale dissolver

A high performance environmentally friendly modified acid scale remover that is a replacement for hazardous and corrosive hydrochloric acid with equivalent solubilizing performance without the associated hazards.

ScaleFix CSD is part of the ScaleFix comprehensive range of environmentally friendly and technically superior scale management solutions. ScaleFix CSD has superior performance properties compared to hydrochloric acid (HCl), without the extremely hazardous/negative exposure, transport, effluent, and corrosive properties. ScaleFix CSD significantly lowers corrosion rates particularly at high temperatures, resulting in more effective scale removal with minimal risk of damage to metal components and less hazardous exposure to personnel.

ScaleFix CSD is used to treat carbonate scale occurring anywhere that carbonate scale builds up including formation pore spaces, perforations, casing, tubing, valves, and chokes as well as surface equipment.

ScaleFix CSD is provided at 100% concentration which has the equivalent dissolving power of 16% HCl and is typically diluted to 50% for carbonate scale treatments. It's low toxicity, low fuming and dermal congeniality make handling significantly more HSE friendly and the ability to transport concentrated product results in less cost and environmental impact.

### Features

- Biodegradable (OECD 301F) > 34% 10 days
- Low oral toxicity
- Low corrosion and compatibility with oilfield elastomers
- Low vapor pressure (fuming)
- Non-corrosive to dermal tissue (concentrate)
- High pH stable
- Non-regulated for ground transportation in the USA

### Benefits

- Environmentally friendly
- Less risk of corroding metal components and damaging elastomeric seals
- Less risk to personnel
- Will not re-precipitate solubilised calcium at high pH (as is the case with HCl)
- Less cost and environmental impact associated with transportation



P-110 Alloy in inhibited 15% HCl 149°C (300°F) Acid blend after 6 hours



P-110 Alloy in ScaleFix CSD 149°C (300°F) after 6 hours

## Technical Specification

Appearance	Amber liquid
Specific Gravity	1.105 g/cm <sup>3</sup>
Freezing Point	~ -50°C/33% blend (fresh water diluted): ~20°C
Boiling Point	> 100°C / 212°F
pH	<0.5
Odor	Slight
Salinity	~ 32%
Solubility	100% in water
Thermal Ceiling	190°C (375°F)
Shelf Life	Confirm after 60 days
CaCo <sub>3</sub> Solubility	Approx. 192kg/m <sup>3</sup> (1.6lb/gal)
CaCo <sub>3</sub> Solubility	Approx. 216kg/m <sup>3</sup> (1.8lb/gal)
FeS Solubility	Approx. 167kg/m <sup>3</sup> (1.4lb/gal)

Concentration %	Temp °F	Coupon	Time (Hours)	Corrosion
50	195		6	0.014 lb/ft <sup>2</sup>
50	195	J55	6	0.003 lb/ft <sup>2</sup>
50	195	L-80	6	0.005 lb/ft <sup>2</sup>
50	195	N-80	6	0.009 lb/ft <sup>2</sup>
50	195	P-110	4	0.013 lb/ft <sup>2</sup>
50	195	QT-900	6	0.003 lb/ft <sup>2</sup>
50	248	L-80	6	0.022 lb/ft <sup>2</sup>
50	248	P-110	6	0.024 lb/ft <sup>2</sup>
50	302	L-80	4	0.018 lb/ft <sup>2</sup>
50	374	L-80	2	0.026 lb/ft <sup>2</sup>